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ABSTRACT BOOK



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Oral Poster Presentation – Lacrimal

Friday, 13.09.2019, 8:30

PL01

Concha bullosa reduction with mini invasive technique in candidates for dacryocystorhinostomy

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Concha bullosa, a pneumatized middle turbinate, is one of the most common anatomic variants of nose lateral wall. In case of lacrimal obstruction it reduces space in the surgical area of dacryocystorhinostomy (D.C.R.). The most preferred technique for concha bullosa reduction is lateral laminectomy of the middle turbinate. However the wound healing after a mucosa removal leads to prolonged recovery from the surgical procedure. We propose a minimal invasive technique of concha bullosa reduction in volume, that leaves mucosa intact.

Methods: 20 patients, candidates for (D.C.R.), with obstructive concha bullosa underwent endonasal endoscopic surgery with fracture of the lateral part of the medial turbinate. The procedure was obtained by using a Luer lock forceps left in position after compression and bone fracture for minimum two minutes time.

Results: the compression after bone fracture induces a permanent adhesion of the lateral and medial wall of the turbinate, leaving the covering mucosa intact. It allows the surgeon to have more working space and higher success rate of surgery, at the same time a faster healing on the nasal mucosa surface. We propose this technique in patients with low obstruction of lacrimal drainage system and blocking concha bullosa, candidates for external or endoscopic D.C.R. procedure.

Keywords: Concha bullosa, dacryocystorhinostomy (D.C.R.)

PL02

Pediatric nasolacrimal duct obstruction: comparison of external and endonasal DCR techniques

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Objectives: To compare the success rates of endoscopic endonasal dacryocystorhinostomy (EN-DCR) and external DCR (EX-DCR) for the treatment of pediatric nasolacrimal duct obstruction (PNLDO).

Methods: Medical records of surgically treated PNLDO cases were retrospectively reviewed. Data regarding etiology of lacrimal drainage system obstruction, previous surgeries, timing of surgery, surgical outcomes, and postoperative complications were analyzed. The decision to do either EX-DCR or EN-DCR was taken by the parents of the children after they were counseled about the risk and benefit of each procedure. Success was defined as complete resolution of epiphora and fluorescein dye disappearance test.

Results: Fifty-five children (60 eyes) underwent DCR in the study, of which 30 children (33 eyes) underwent EX-DCR and 25 (27 eyes) EN-DCR. Mean age of both groups (8.7 vs. 8.4 years) was comparable. Etiologically, persistent congenital NLDO was the most common indication (84.8% vs. 88.8%), followed by traumatic NLDO. All congenital NLDO cases had history for unsuccessful probing and/or bicanalicular silicone intubation. Previous history for unsuccessful EX-DCR was positive in 4 eyes in both groups. Bicanalicular silicone intubation was performed in all cases without any antimetabolite use. The mean duration for surgery was shorter in EN-DCR group. (65 vs. 35 min; $p:0.001$). Success after EX-DCR was 96.9 % as compared to 96.2% for EN-DCR at median follow-up of 12 and 16 months respectively ($p>0.05$). Postoperative healing was shorter, and treatment was easier and in EN-DCR. One postoperative nasal bleeding and three cutaneous scar formation were encountered in EX-DCR group.

Conclusions: A high success rate was achieved with both DCR techniques for PNLDO without any statistical difference. EN-DCR has high satisfaction due lack of external incision, shorter surgical duration and healing period. EN-DCR can be considered as the primary treatment of choice for PNLDO.



PL03

Long-term outcome of transcanalicular microendoscopic lacrimal duct surgery at a tertiary eye center in Germany

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Purpose: This study aimed to evaluate long-term results of transcanalicular microdrilldacryoplasty (tMDP) at a tertiary eye care center specializing in lacrimal duct surgery in Germany.

Methods: The medical records of 1010 patients with acquired nasolacrimal duct obstruction (NLDO) who had undergone lacrimal duct surgery at a tertiary eye care center between 2009 and 2011, were reviewed. Only adult patients who had undergone tMDP were included. The evaluation included the following parameters: age, gender, incidence of recurrence, duration of silicone tube intubation, previous dacryocystitis, complications rates and patient satisfaction. Postoperative long-term results regarding patient satisfaction and success rate were evaluated by telephone survey.

Results: 793 eyes of 596 patients could be included in the study. The average age was 60.84 ± 16 years. 64.6% of patients were female and 35.4% male. The mean follow-up-time was 104 ± 10.7 months. The mean patient satisfaction with the procedure was 6.9 ± 3.2 out of 10 points. A total of 43.3 % of the patients ($n = 165$) showed a recurrence of the stenosis. Of these, 43.6 % ($n = 72$) had a second lacrimal duct surgery. A relevant bleeding occurred in one case only (0.0026%).

Conclusions: This is the first study to show the rate of recurrence after microendoscopic lacrimal duct surgery after such a long follow-up-period. The rate of recurrence in our study was 43.3% and higher than postulated in other studies in the literature. Nevertheless, the tMDP is a minimal invasive procedure with a very low complication rate and therefore can be used as a „first step procedure“.

PL04

Endoscopic DCR in functional epiphora

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Introduction: Functional epiphora is a very frequent pathology found in our daily practice, the diagnosis is made by exclusion and there is lot of controversy regarding the treatment of choice. There are few studies that support the results of therapeutic response using Endoscopic DCR + intubation, which is why analyzing the results of patients operated at the IMO using this technique, may be relevant to demonstrate its effectiveness. Observational, retrospective descriptive, longitudinal study.

Material and methods: 73 eyes were evaluated in the period between 2010-2018. Inclusion criteria: patients without previous lacrimal surgery with diagnosis of epiphora with permeable lacrimal duct, verified by DSG and with no secondary cause of epiphora. Follow up of the operated patients was done at 1, 3 and 8 months.

Results: 73 eyes: 35 unilateral and 19 bilateral. Age: 44-96 years (average 69.44). 58.7% of the patients showed syringing patent with reflux, while 41.3% patent without reflux. After 8 months POP, 14.3% (5 eyes) of the patients presented persistence of the epiphora with permeable ostium to rhinoscopy, while 58.3% (7 eyes) did not present symptoms despite having a closed ostium. 8% (6 eyes) required re-intervention with an average re-operation time of 5.5 months, corresponding to a 81% success in the initial indication of Endoscopic DCR + Intubation in patients with diagnosis of functional epiphora. From the re-operated patients: 4 cases presented alteration at the level of the canaliculi, 1 Sump Syndrome and 1 Ostium membrane.

Conclusion: EN- DCR + Intubation is an effective technique for the treatment of functional epiphora.



PL05

No impact of nasal septoplasty on the outcome of endoscopic dacryocystorhinostomy

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Background: To compare outcomes of combined endoscopic dacryocystorhinostomy (endoDCR) with nasal septoplasty for deviation of the nasal septum to endoDCR alone in cases of nasolacrimal duct obstruction (NLDO).

Methods: A retrospective cohort study that included 107 consecutive patients with NLDO, who underwent endoDCR with or without concomitant nasal septoplasty in our institution between October 2009 and October 2017.

Results: A total of 117 operations were performed (107 patients, 80.4% females; mean age \pm SD 51.1 \pm 19.5 years). Twenty-five (21.4%) endoscopic surgeries were combined with septoplasty (the endoDCR+septoplasty group), and 92 (78.6%) were comprised of endoDCR alone (the endoDCR group). There was no difference in anatomical success and functional success rates between the two groups ($P = .76$ and $P = .18$, respectively). There were no complications attributed to the septoplasty component of the surgical procedure.

Conclusion: Considerable numbers of patients undergoing endoDCR also require a septoplasty. Combining an additional procedure (septoplasty), that was not performed for its original indication but rather for facilitating the main surgical intervention (endoDCR), yields surgical success and associated complications equivalent to those of endoDCR alone.

PL06

Triamcinolone use in dacryocystorhinostomy. A four year audit in a tertiary referral center in the United Kingdom

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Objective: To present the anatomical and functional success rate of dacryocystorhinostomy (DCR) procedures done at a tertiary referral center in the UK between 2013 and 2017. Moreover, evaluate the use of intraoperative triamcinolone to improve the success rate.

Methods: The medical records of 293 patients who underwent external or endonasal DCR with silicon stent intubation from January 2013 until January 2017 were retrospectively reviewed. Surgical and functional success rates were evaluated. Triamcinolone injection was used as adjunctive in selected cases where a high risk of failure was anticipated. Correlation between intraoperative triamcinolone use and success rate was evaluated. Possible adverse effects of triamcinolone were documented and indications for usage of triamcinolone were investigated.

Results: 314 cases from a total of 363 DCR's were included in our study. 224 of them were performed in females while 90 were performed in males. Mean age was 62 years and mean duration of symptoms was 21 months. Mean time of tube removal was 9.7 weeks while the mean follow up period was 10.53 months. Anatomical success rate was 93.9% although the functional success rate was 82.5%. No correlation nor any statistical significance was found between time of tube removal and success. Intraoperative triamcinolone was injected in nasal and lacrimal flaps in 51 patients. No adverse effects from the use of triamcinolone were noted to our cohort of patients. Regarding the patients that underwent surgery for NLDO or functional epiphora no statistical significance was found between use of triamcinolone and success rate however for the redo endonasal operations the functional success rate was 50% with no use of triamcinolone increasing to 100% when triamcinolone was used.

Conclusion: Success rate of DCR in our study was comparable with national standards. Use of triamcinolone injection revealed a trend towards increase of success rates in redo endonasal DCR's.



PL07

Evaluation Of the effectiveness of balloon catheter dilation as a treatment of congenital nasolacrimal duct obstruction

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Objectives: To assess the effectiveness of balloon catheter dilation as primary or secondary treatment in congenital obstruction of the distal portion of the nasolacrimal duct in a tertiary children hospital.

Methods: A retrospective review was performed of the application of balloon catheter dilation as a primary treatment of congenital obstruction of the distal portion of the nasolacrimal duct, and also as a secondary approach after unsuccessful probing or intubation. The total number of eyes included was 110 from 78 patients. 58.18% of the cases were bilateral. 54.55% of the patients were girls. The average age at the moment of treatment was 4.36 +/- 3.4 years (1.33-16.74). 69.09% of the cases had not been treated surgically beforehand.

Results: The treatment was effective in 92.73% of the cases. No postoperative complications were reported.

Conclusions: The utilization of balloon catheter dilation as a treatment for congenital obstruction of the distal portion of the nasolacrimal duct is an effective and safe approach, both as a primary therapy or as a secondary, after probing or intubation failure.

PL08

Hasner's valve reconstructive surgery efficacy in patients with secondary nasolacrimal duct obstruction following radioiodine therapy

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Objectives: Patients with thyroid disorders are commonly known to develop secondary lacrimal passages pathology following radioiodine therapy. Earlier we have suggested an Hasner's valve endoscopic reconstructive surgery - meatoplasty - for patients with primary nasolacrimal duct obstruction. Current research assesses the efficacy of the same surgical method in patients with secondary nasolacrimal duct obstruction following radioiodine therapy.

Aim - to assess the clinical efficacy of Hasner's valve endoscopic reconstructive surgery (meatoplasty) in patients with secondary nasolacrimal duct obstruction following radioiodine therapy.

Methods: We have conducted a non-controlled sequential trial. The study included 10 patients at various time-points after being treated with different doses of radioactive iodine. All patients underwent a contrast-enhanced computed tomography of lacrimal passages, that revealed a nasolacrimal duct obstruction at the Hasner's valve level. In all 10 cases we conducted an endoscopic reconstructive surgery (meatoplasty) with scar tissue resection in the Hasner's valve area and bicanalicular intubation of the lacrimal passages. Clinical efficacy of the operation was assessed 3 months after the extubation based on patient complaints, functional tests and lacrimal meniscometry.

Results: In 8 cases the results were qualified as a success: 6 patients reached recovery, 2 - symptoms regression. The other 2 patients had a relapse.

Conclusions: Clinical efficacy of the proposed operation in patients with secondary nasolacrimal duct obstruction allows us to recommend it as a surgical alternative to dacryocystorhinostomy in certain cases. Conducting major controlled studies will help to further clarify indication for this type of surgical treatment.



PL09

Antibiotic prophylaxis and the rate of surgical site infection (SSI) in clean and clean-contaminated oculoplastic, lacrimal and orbital surgery

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Purpose: The routine use of prophylactic antibiotics in oculoplastic, orbital and lacrimal surgery is controversial and the evidence for its use is lacking. There is consensus for a single dose of intravenous (IV) antibiotics administered at induction of anaesthesia for clean surgery with placement of an implant and clean-contaminated surgery. This study investigated the rate of SSI in 1) clean-contaminated procedures, including breaching the sinuses or the presence of an open wound for >24 hours pre-operatively, where a single dose of IV antibiotic was administered and 2) clean procedures, involving insertion of an implant/graft, not breaching the sinuses, without IV antibiotics.

Methods: Retrospective cohort study. Group 1: Clean-contaminated procedures received a stat dose of IV antibiotics at induction of anaesthesia. Group 2: Clean procedures received no IV antibiotics at induction. Both groups received topical antibiotics to the incision site for 2 weeks. Exclusion criteria: Immunosuppression, already taking antibiotics or unable to consent. SSIs occurring within 30 days post-surgery were documented.

Results: 106 cases. M=F. Group 1 (n=52): Orbitotomy breaching the sinuses, dacryocystorhinostomy +/- stent and insertion of an orbital implant in contaminated wound. Group 2 (n=54): Orbitotomy NOT breaching the sinuses, insertion of an orbital implant, silicone brow suspension, eyelid and lacrimal reconstruction not breaching the sinuses and use of a skin/hard palate graft and primary lacrimal intubation. The rate of SSI within 30 post-operative days in both groups was 0%.

Conclusion: There is no significant risk of SSI from withholding IV antibiotics at induction of anaesthesia in clean, non-contaminated oculoplastic, lacrimal and orbital procedures that involve placement of an orbital implant or lacrimal stent, where the sinuses are not breached, or use of a skin/hard palate graft. In clean-contaminated procedures or where the sinuses are breached the risk of SSI is minimized with a single dose of IV antibiotics.

Oral Poster Presentation - Aesthetic

Friday, 13.09.2019, 8:30

PA01

Dermatochalasis through decades. A histopathologic study

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Background: Two prior studies (2011, 2018) histopathologically compared the eyelid specimens of patients with dermatochalasis (undergoing blepharoplasty) with a control group and concluded that dermatochalasis may begin with subclinical inflammation leading to elastolysis and secondary lymphostasis. If such changes differ at different ages is not clear which is the aim of this study.

Methods: In a prospective comparative study, 20 right upper eyelid skin of 20 non-smoker, class III Fitzpatrick skin type females (30-68 years old) at 4 age groups (≤ 40 , 41-50, 51-60, ≥ 61 years) were histopathologically examined. Upper eyelid skin was preoperatively marked, intraoperatively removed, postoperatively divided into 3 zones: lateral (lateral limbus to lateral canthus), central (between medial and lateral limbi), and medial (medial limbus to medial canthus), and separately (totally 60 specimens) sent for histopathological examination by a masked observer. A masked pathologist recorded skin thickness in all specimens (60) as well as lymphatic vessels diameter and density, elastic fiber density, macrophage number, collagen intra-fibril edema, and depth of collagen stromal bed in central zones (20 specimens).

Results: Each age group consisted of 5 right upper eyelids. There was not a statistically significant difference between different age groups and zones regarding all the histopathological measurements. A negative correlation was found between macrophage number and lymphatic fiber density.



Conclusions: None of the histopathological characteristics of DC was attributed to the age. A dose-dependent (negative correlation) association between macrophage number and lymphatic density highlights the role of inflammation in lymphostasis.

PA02

Long-time effect of eyebrow tattooing on skin thickness in upper lid blepharoplasty

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Introduction: Eyebrow tattooing is a relatively common cosmetic procedure in middle aged women that can hide age related brow ptosis. Skin changes following brow-tattooing can cause unacceptable cosmetically appearance of eyebrow and upper eyelids. This study focused on skin changes years after upper lid tattooing and effect of these changes on result of upper lid blepharoplasty.

Material and methods: This study was a prospective study. 8 women included in this study, 4 patients with eyebrow tattooing at least 5 years before and 4 patients without eyebrow tattooing. All of patients undergone sonography of eyebrows to measure the skin thickness from skin to bone. then upper lid blepharoplasty was done and skin samples were evaluated histopathologically.

Results: Median age of patients were 49 years and 48.5 years in non-tattooed group and tattooed group respectively. In tattooed eyebrow group total skin thickness from skin to bone was 6.3 mm on lateral side of eyebrow and 6.12 mm on medial side of eyebrow. In non-tattooed eyebrow group total skin thickness from skin to bone was 5.1 mm on lateral side of eyebrow and 4.87 mm on medial side of eyebrow. Mean subcutaneous hypoechogenic lucid band thickness on lateral aspect of eyebrows were 1.83 mm and 0.58 mm in tattooed group and non-tattooed group respectively. Mean subcutaneous hypoechogenic lucid band thickness on medial aspect of eyebrows were 1.78 mm and 0.25 mm in tattooed group and non-tattooed group respectively. Histopathologic findings in tattooed eyebrow group ranged from edema and congestion to sub epidermal fibrosis and chronic inflammation. These changes were not seen in controlled group.

Conclusion: Brow tattooing can cause skin changes with important impacts on eyebrow and upper eyelid cosmetics. These changes must be considered when planning upper lid blepharoplasty to achieve better results.

PA05

Ocular complications following dermal filler treatment; pathogenesis and treatment guidelines

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Purpose: The number of facial treatments with soft tissue fillers is increasing. A rare but devastating complication that can occur is embolic occlusion of the ocular circulation resulting in blindness. This study is intended to describe the pathogenesis, incidence and therapeutic options in order to develop a treatment guideline.

Methods: A review of the literature reporting 99 cases of blindness after filler treatment. (in 66 cases hyaluronic acid based filler, in 22 cases autologous fat, in 11 cases other materials).

Results: The underlying mechanism of the embolic occlusions is the retrograde injection of filler materials into the angular, dorsal nasal, supratrochlear or supraorbital artery. Backflow results in occlusions of the ophthalmic artery and its branches.

If hyaluronic acid based fillers have been used, retro bulbar injection of 2-4 cc hyaluronidase is recommended. In case of autologous fat related occlusions lowering the intraocular pressure and massaging the eyeball are the only options. Visual outcomes are generally poor.

Using blunt cannulas instead of sharp needles to place the fillers improves the safety of the procedure. Knowledge of facial vascular anatomy and its variations is required when performing filler treatments, especially in the "danger zones"



Conclusions: Non-surgical cosmetic treatments are performed more frequently. This might result in an increasing number of complications. When using fillers in the periorbital region, close cooperation with the ophthalmologist is important to manage these complications.

PA06

Cosmetic foam sclerotherapy and rare ophthalmic complications

Amrita Sawhney¹, Ashok Kumar Grover¹, Anurag Mittal¹, Shaloo Bageja¹

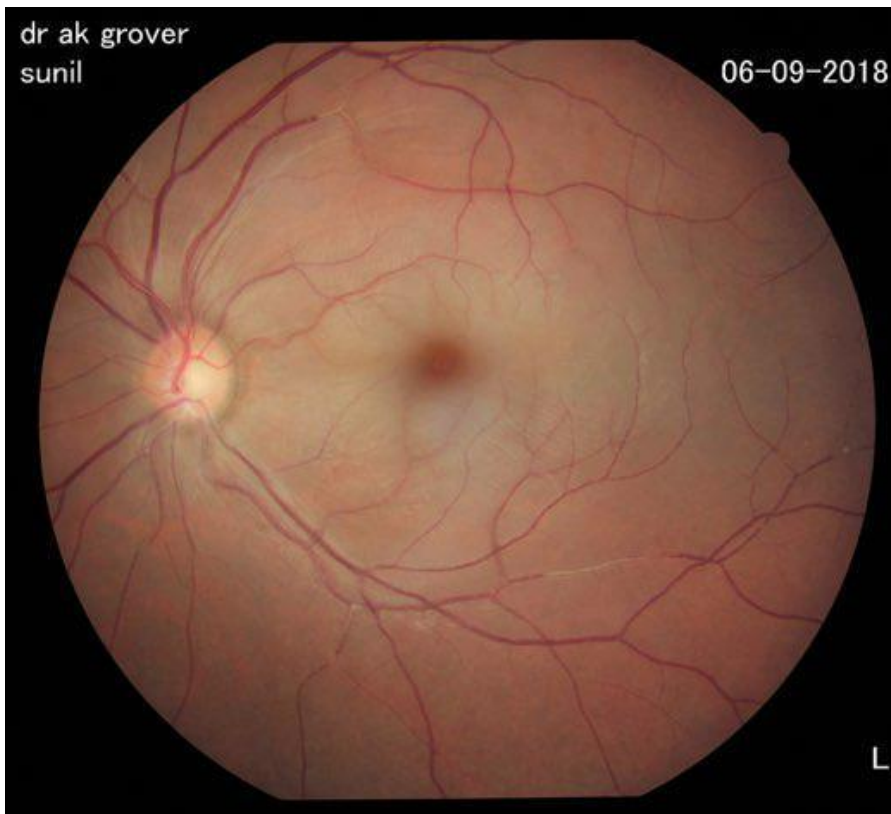
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Background: To describe a rare case of transient central retinal artery occlusion along with segmental short posterior ciliary artery occlusion following cosmetic foam sclerotherapy for a forehead lesion.

Method: A 21year old healthy young male underwent ultrasound guided injection of sodium tetradecyl sulphate (sclerosant) in low flow venous malformation on forehead and developed sudden loss of vision in the left eye, one hour post injection. On comprehensive ophthalmic examination, visual acuity for left eye was noted to be hand movements with projection of rays inaccurate in two quadrants. Fundoscopy revealed central retinal artery occlusion with multiple emboli visualised along temporal arterioles. Optical coherence tomography and Fundus Fluorescein Angiography (FFA) confirmed the observations. Acute management in the form of ocular massage, anterior chamber paracentesis, oral acetazolamide and intravenous mannitol injection was carried out.

Result: Four hours post acute intervention, visual recovery was noted. FFA post recovery revealed segmental posterior ciliary artery occlusion.

Conclusion: This case demonstrated excellent visual recovery and a gratifying outcome following a sight threatening complication of cosmetic foam sclerotherapy due to prompt management. Transient visual disturbances, temporal scotomas and a few cases of irreversible loss of vision are already documented in literature. Better awareness of the previously unreported and rare complications following an innocuous procedure will help the physicians and surgeons using sclerosant in orbital adnexa and face to counsel their patients adequately.



[Fundus photograph of left eye showing CRAO with sclerosant visualised in temporal arterioles.]



PA07

Lower blepharoplasty complications correction. Compromise approach

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Most of the complications encountered in aesthetic surgery of the eyelids occur after undergoing lower blepharoplasty.

The main complaints are: retraction of the lower eyelid (scleral show), tearing, rounding of the outer corners, dry eye syndrome

The basic preventive measures are: delicate resection of the skin and orbicular muscle, avoidance of excessive intraoperative coagulation, surgical reinforcement of the lower eyelid frame, if necessary, anti-scar therapy (hormonal ointments, injections, silicone creams, physiotherapy). In most cases of the lower eyelids retraction the preference is given to minimally invasive surgery - sufficient effect without compromising the aesthetics of the skin.

In 2019 15 patients underwent the lower eyelids correction after aesthetic blepharoplasty and other aesthetic facial surgery provided by regular plastic surgeons. The main correction methodics - canthopexy, canthoplasty and lateral tarsal strip procedure - were combined with other procedures: ptosis repair, orbital fat reduction, scars excision.

After 6 months intendance the dissapearance of complaints and stable results were marked. These methodics can be used successfully in cases when the skin graft transplantation or the other major surgery providing are impossible.

PA09

Pressure ulcer following circumferential head dressing; small case series and review of literature

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Background: To report 4 patients with forehead pressure ulcer (PU) following encircling head dressing and review the literature for its clinical presentation, pathophysiology, diagnosis, prevention, and treatment.

Methods: Small case series and literature review.

Results and discussion: PU developed in otherwise healthy subjects after endoscopic forehead lifting (3 patients) and dermoid excision (1 patient) with encircling head dressing (16- 72 hours). It almost always occurs in systemically ill patients with ≥ 1 risk factors: immobility with fixed prolonged position, diabetes, perfusion impairment, and use of medical devices. Head and neck is the most frequent site in device-related PU. External pressure, shearing forces, and reperfusion injury are 3 main contributing factors in its pathophysiology. Prevention is mainly based on management of the underlying diseases (if any), external pressure release, and frequent skin examination. Treatment strategy is according to the stage of PU and presence of concomitant infection which include wound dressing and debridement as well as using antiseptics, antibiotics, and nutrients.

Conclusions: Early loosening of the encircling head dressing and frequent examination of the skin are the only preventive and diagnostic measures. Immediate removal of the pressure and staging of PU are the starting treatment actions. While different wound dressings have been proposed, none has shown a superiority over the others. Wound debridement is an essential step for granulation and epithelialization. Good hydration, sufficient calorie intake, and vitamin/ mineral supplements help heal the PU.



Oral Poster Presentation – Orbit I

Friday, 13.09.2019, 8:30

PO01

The London experience of patients across three multi-disciplinary Graves' orbitopathy clinics

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Purpose: There are no established national standards for management of Graves' orbitopathy (GO) in the UK. Early diagnosis and treatment of GO is essential to prevent sight-threatening complications. We aim to describe the patient experience over nine years, to provide a multidisciplinary perspective in order to improve standard of care.

Methods: A retrospective analysis of 254 patients seen at three GO multidisciplinary (MDT) clinics between 2010-2019. Main outcome measures were: i) demographics, ii) disease severity using clinical activity score (CAS) iii) time between referral and treatment for sight threatening disease iv) offering of smoking cessation and selenium supplementation, where appropriate v) treatment with intravenous methylprednisolone (IVMP) in selected patients vi) frequency of orbital radiotherapy and orbital decompression following a clinical decision and mean referral time.

Results: The mean age was 47.5 years and 79.9% female. Across the clinics, 23.6%, 23.9% and 19.6% were Caucasian. The mean CAS at presentation was $1.6 \pm \text{SD}: 1.4$ (range: 0-7) and at discharge was 0.35 ± 0.57 (range: 0-2). 60.3% were TSH and/or TPO antibody-titre positive. All 21 patients with sight-threatening GO were seen and treated within 2 weeks. All current smokers (22%) received documented smoking cessation advice. Selenium supplementation was recommended to 59.4% patients. Additionally, 72/254 received IVMP for active moderate-severe GO (mean time to treatment: 9.0 days, range: 0-90). Second-line immunosuppression treatment was given to 13.8% of patients; 14.6% required orbital radiotherapy (mean referral time: 31.1 days, range: 4-70). Furthermore, 7.9% underwent orbital decompression, including emergency (mean referral time: 1.6 days, range: 0-6) and elective (mean referral time: 96.6 days, range: 56-168).

Conclusions: The increasing recognition that an MDT approach is optimal for managing GO requires a strong clinical governance framework. We have proposed a set of clinically relevant quality standards derived from three high volume GO MDT clinics. These standards inform the debate defining high quality care and resource allocation for GO in the UK.

PO03

A volumetric analysis of spontaneous decompression in thyroid eye disease and compressive optic neuropathy

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Introduction: A large study on bilateral compressive optic neuropathy and asymmetric proptosis found little evidence for the phenomenon of spontaneous decompression (Gasser et al. 1986). Rare instances, however, are present in which patients still demonstrate improved CON with worsening proptosis in one eye, when compared to the other. The objective was to conduct a volumetric analysis on this subset, to determine if elements on CT scan could explain this phenomenon.

Methods: 15 patients (30 orbits) met inclusion criteria;

- 1) asymmetric proptosis $\geq 2\text{mm}$,
- 2) bilateral CON, and
- 3) associated CT scan. CON was evaluated via color plates (CP/6), 24-2 visual fields (MD), and visual

acuity (VA). Patients were divided as denoted in Table 1. Scans underwent muscle volume (MV), fat volume (FV), MV/FV ratio, and qualitative analysis. Statistical analysis was performed by one-way ANOVA.

Results: Patients with worse CON in the eye with worse proptosis had the largest difference in muscle volume between eyes, with significantly worse CP ($p=0.02$) and MD ($p=0.007$) [Table 1]. An asymmetrically large superior-medial rectus complex (SMC) appeared to be unique to this group ($p=0.02$). Only in cases of 'spontaneous decompression' was there no evidence of apical swelling of the muscles.

Conclusions: Orbits that demonstrate 'spontaneous decompression' have a higher relative fat burden (largely equivalent MV/FV, but less MV), with lower values of proptosis and less severe CON. In contrast, apical swelling may contribute most to muscle-induced proptosis from a mechanical perspective, due to posterior tissue displacement, resulting in worsened CON. The SMC appears to be most relevant to concomitant worsening of both CON and proptosis.

Category	VA Avg. / Diff. (logMAR)	CP Avg. / Diff.	MD Avg. / Diff.	HE Avg. / Diff. (mm)	MV Avg. / Diff. (cm3)	FV Avg. / Diff. (cm3)	MV/FV Avg. / Diff. (cm3)	SMC Avg. / Diff.	Apical Swelling (qualitative)
Worse CON w/ Worse Proptosis	0.216 / 0.11	3.69 / 2.08	-5.56 / 6.67	24.83 / 1.15	6.05 / 3.11	23.78 / 1.15	0.42 / 0.22	3.42 / 2.33	100%
Better CON w/ Worse Proptosis (i.e. Spontaneous Decompression)	0.086 / 0.057	4.55 / 1.10	-2.35 / 1.08	22.80 / 2.80	5.15 / 0.80	22.13 / 0.92	0.37 / 0.07	2.42 / 0.302	0%
Equal CON w/ Worse Proptosis	0.403 / 0.43	4.00 / 0.00	-3.63 / 0.25	23.12 / 2.25	6.22 / 0.58	24.86 / 0.27	0.44 / 0.047	2.97 / 0.563	75%

[Clinical and Volumetric Results by Cohort (average and diff. between eyes)]

PO04

The degree of changes in eyelid index parameter after endonasal and transcaruncular orbital decompression in thyroid associated orbitopathy

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Background: After orbital decompression, not only the protrusion of the eye is reduced but also the shape and position of the eyelid changes. In contrast to transcaruncular approach, endonasal approach can provide direct and complete access to the medial orbital wall. Second, endonasal approach can retain larger ethmoid space. This study is designed to evaluate any differences of changes in eyelid index according to the surgical approach.

Methods: From 2015 to 2017, 50 patients who underwent orbital decompression for thyroid orbitopathy were retrospectively recruited. We divided the one-wall and two-wall group into subgroups according to the surgical approach. Eyelid indices, proptosis, lid retraction, lid lag, lagophthalmos were collected.

Result:

Δ (Postop - Preop)	Endonasal (15 eyes)	Transcaruncular (16 eyes)	
Degree of proptosis	-2.53 \pm 0.71	-2.41 \pm 1.13	$p=0.14$
MRD1	-0.36 \pm 0.44	-0.19 \pm 0.42	$p=0.20$
MRD2	-0.30 \pm 0.59	-0.39 \pm 0.71	$p=0.21$
LFT	-0.20 \pm 0.68	-0.08 \pm 1.08	$p=0.08$

[Changes in eyelid index between preoperative and postoperative (one-wall)]

Δ (Postop - Preop)	Endonasal (46 eyes)	Transcaruncular (22 eyes)	
Degree of proptosis	-3.85 ± 1.77	-3.32 ± 1.37	$p=0.15$
MRD1	-0.19 ± 0.85	-0.09 ± 1.26	$p=0.31$
MRD2	-1.23 ± 1.36	-1.13 ± 1.59	$p=0.45$
LFT	-0.17 ± 1.98	-0.03 ± 1.85	$p=0.41$

[Changes in eyelid index between preoperative and postoperative (two-wall)]



[External photo of 1 wall decompression (Pre-op, Post-op 1 week, Post-op 6 months, respectively)]

Conclusions: With consistently greater changes in proptosis reduction and eyelid indices, endonasal approach may have more effect than transcaruncular approach. Determining the orbital decompression in patients with thyroid orbitopathy, the advantages and disadvantages of the surgical approach should be fully considered.



PO05

Demographic and clinical profile of 1000 patients with thyroid eye disease presenting to a tertiary eye care institute in India

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Purpose: To assess the demographic and clinical profile of Thyroid Eye Disease (TED) presenting to a Tertiary Eye Care Institute in India.

Methods: All patients who were diagnosed to have Thyroid Eye Disease (TED) between the year 2007-2017 at the Ophthalmic Plastic Surgery service, LV Prasad Eye Institute were included in this retrospective observational study. The demographic details of parameters such as age, gender and laterality, presenting signs and symptoms, clinical activity at presentation, and systemic thyroid status were assessed.

Results: A total of 1000 consecutive patients of TED were evaluated in the 10-year period. Average age at presentation was 44.9 years (range 8-89). Of the 1000, 529 (53%) were males, and 358 (36%) had unilateral TED. At presentation, the TED was active (time since onset \leq 12 months) in 476 (48%) cases and 71 (7%) had dysthyroid optic neuropathy. Of the 913 patients where systemic thyroid status was available at the time of presentation, 342 (37%) were Euthyroid at presentation. Of the patients who were active at presentation (n=476), 349 (70.3%) were silent presenters (Active as per timeline, but CAS \leq 3). A prominent eye was the most common presenting symptom in 563 (64%) patients. Most common presenting signs were Proptosis in 582 (58%), lower lid retraction (49%), upper lid retraction (48%), diplopia (6%), ptosis (5.6%), and corneal ulcer (1.3%).

Conclusions: TED in India presents to the tertiary eye center at a younger age, with slight male preponderance. One-third (37%) are Euthyroid and half (48%) are clinically active at presentation. One-third (35%) were silent presenters, and ptosis was a unique presenting sign noted in 5% cases.

PO06

Granulomatous inflammation following intraorbital stem cells injection

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Objective: Autologous and/or allogenic stem cells treatment remains to be widely explored in patients with significant vision impairment due to retinal and/or optic nerve disease. Generally few or no adverse effects are reported after the treatment procedure. The purpose of current thesis is to present a casuistic case of rapid granulomatous inflammation following allogeneic mesenchymal stem cells (AMSC) retrobulbar injection.

Methods: 80 y.o. male complained of painless growing swelling of his left lower lid. According to provided data he developed this complication within a week after retrobulbar AMSC injection due to progressive AMD in another country. He received twice intralesional diprosan injection with no effect. During examination: 25x35 mm palpatory solid lesion of left lower lid, with no fluctuation. An ultrasound examination was performed visualizing hyperechoic lesion sized 28x36 mm with a multichamber structure and thick capsule.

Results: Due to a persisting growing of the swelling, an incision was performed with approximately 15 ml white-yellow puslike discharge. The patient was administered 1g cefotaxime IM 3 times daily. Orbital CT visualized lesion expansion into the inferior and lateral part of the orbit. The tumor was surgically removed with a subsequent morphological examination. According to the morphological examination an inflammatory granulomatous reaction with predominant lymphocytic infiltration and epithelioid cells was observed. An immunohistochemical analysis was performed, confirming granulomatous inflammation.

Conclusion: Stem cells treatment was reported to be a perspective option for patients with a wide variety of eye diseases, however autoimmune reaction causing granulomatous inflammation with an abscess formation proves that further studies are warranted for determining safety of this approach.



PO07

Single cell proteomics of regulatory T cells and IgG4 plasma cells in Immunoglobulin G4 related orbital disease (IgG4-ROD)

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Background: Immunoglobulin G4 related orbital disease (IgG4-ROD) is a specific condition of unknown etiology, the diagnosis of which depends on histological presence of IgG4 positive plasma cell, a clinical feature which shared by other specific conditions (Lymphoma, Sjogren's etc). We are using single cell technology to determine the proteomic profile of the regulatory T cells and IgG4 plasma cells in IgG4-ROD.

Methods: Twenty micron thick formalin fixed paraffin embedded (FFPE) sections from 15 cases of biopsy proven IgG4-ROD (n=10) and non-IgG4 orbital inflammatory disease (n=5), differentiated using histological consensus criteria, underwent tissue section dissociation. The cell suspension obtained was stained with FOXP3 and IgG4 antibodies, sorted on the DEPArray NXT™ platform, studied with flow cytometry and mass spectrometry.

Results: Regulatory T cells and IgG4 positive plasma cells from IgG4-ROD and non-IgG4 orbital inflammatory disease show significantly dysregulated proteins.

Conclusion: These differentially expressed proteins in regulatory T cells and IgG4 positive plasma cells of IgG4-ROD may serve as additional biomarkers for diagnosis and potential therapeutic targets.

PO08

Carotid cavernous fistula. Treatment with embolization via the superior ophthalmic vein

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Objective: Carotid cavernous fistulas (CCFs) are abnormal communications between the carotid arteries and the cavernous sinus. CCFs result in increased blood pressure within the cavernous sinus, with subsequent fistulous blood flow into the orbital veins. Cases of CCFs that do not close spontaneously require interventional treatment. Typical treatment in these cases is embolization, via a retrograde transvenous approach, entering through the inferior petrosal sinus or the facial vein, and reaching the cavernous sinus under radiological monitoring.

Methods: This study cites five cases with CCF, where embolism could not be realized through the inferior petrosal sinus or the facial vein. Hence, interventional radiologists cooperated with oculoplastic surgeons, for an alternate approach of the cavernous sinus, via surgical exposure and access of the superior ophthalmic vein.

Results: In all CCF cases where approach of the cavernous sinus was not feasible through the inferior petrosal sinus or the facial vein, embolism through the superior ophthalmic vein was successful, leading to resolution of symptoms, with minimal complications.

Conclusion: Cooperation of the oculoplastic surgeon with the interventional radiologist leads to a successful approach of the cavernous sinus via the superior ophthalmic vein, closure of the CCFs and resolution of the presenting symptoms.



PO09

Orbital trauma in a regional orbito-facial Trauma Centre

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Complex orbital fractures require multi-specialty input. There are no nationally agreed best practice guidelines (BAOMS Trauma Specialist Group Lead). A recent meta analysis established that patients fractures operated on more than 14 days post injury had a significantly increased risk of persistent diplopia.

Methods: We collected data on all patients presenting to a regional orbito facial trauma centre over a 3.5 year period referred for orbital and ophthalmic assessment between December 2014 to June 2018 including demographics, eye and orbital injuries, management and outcomes.

Results: 324 patients, Age range 15-89, 282 patients (87%) below 60 yrs of age, 42 patients (13%) above 60. Assault in 219 patients (67%) was the most common mechanism of injury in the under 60s and falls 16 patients (73%) for above 60s age group. Isolated fractures in 221 patients (65.5%) while complex fractures 32 (9%). 92% of patients presented with ocular motility problems that improved after surgery. 42 cases residual ocular motility needing referral to strabismus clinic. Strabismus surgery was needed for 14 patients (4%). 14% were left with residual diplopia. 7 (2%) patients with Traumatic Optic Neuropathy. The timing of injury to eye assessment was within first week for 42 patients (13%), second week 229 patients (70%) and 53 (16%) patients were seen after 2 weeks. 195 patients (60%) went for Orbital Fracture Repair.

Conclusion: A clear referral pathway from trauma to OMFS via ophthalmology is essential to ensure patients are treated in a timely fashion as this would reduce need for reoperation and maximise final outcome

Oral Poster Presentation - Eyelid

Friday, 13.09.2019, 8:30

PLM01

Safety, functional and cosmetic outcomes of congenital ptosis surgery in children

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Purpose: To report the safety, functional and cosmetic outcomes after ptosis surgery (frontalis suspension using Ptose-up strips, levator resection, Muller muscle conjunctival resection). To characterize visual problems in children with congenital ptosis.

Methods: A retrospective case series study enrolled 42 patients (14 women, 28 men, 2-18 years, mean 8,36 years) with congenital ptosis. 34 of them underwent Ptose-up frontalis sling suspension due to severe blepharoptosis with poor levator function, 2 patients underwent levator resection and 6 of patients had procedures of Muller muscle conjunctival resection. 6 patients underwent surgery on both eyes due to bilateral ptosis. All patients completed a minimum of 6 months of follow-up. Exclusion criteria were: absent Bell's phenomenon, loss of corneal sensation and abnormal ocular motility. Functional success was defined as improvement of eyelid position above the pupillary margin without serious complications. Complications were reported. The presence of amblyopia and abnormal head posture was analyzed.

Results: Functional success was achieved in 38 children (90,48%). Complications were reported in 4 cases (9,52%) and included: eyelid inflammation with suture granuloma (2 cases - 4,76 %), sling exposure at forehead incision (1 case - 2,38 %) and recurrence of ptosis (2 cases 4,76 %). Corneal exposure in downgaze was observed in all patients after Ptose-up surgery. Prior to surgery 23 children had deprivation amblyopia (18 unilateral severe blepharoptosis cases and 5 bilateral severe plepharoptosis cases) and all 42 patients (100 %) had abnormal head position.

Conclusions: Ptose-up is a safe and effective material for frontalis suspension in patients with severe ptosis. Correction of congenital ptosis may contribute to start visual rehabilitation because of amblyopia.



PLM02

Comparison of upper eyelid contour symmetry in patients with congenital blepharoptosis who underwent Frontalis muscle flap surgery using Bézier curves

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Objective: The objective of this study is to measure and to compare the interocular contour symmetry of the upper eyelid in patients with congenital unilateral or bilateral blepharoptosis who underwent Frontalis muscle flap surgery using a quantitative method of eyelid contour with Bézier curves.

Methods: The Bézier curve is present in the ImageJ software and it was used to extract the eyelids contours of 40 eyes. These eyes were divided in two groups: Group 1 - 10 patients with congenital bilateral blepharoptosis (20 eyes underwent surgery) and Group 2 - 10 patients with congenital unilateral blepharoptosis (10eyes[sm1] underwent surgery and 10 eyes did not).The evaluation of the eyelid contour was estimated with the overlap of two curves. The two-factor variance analysis was used to test the average of the overlap coefficient between the right and the left eyes.

Results: Mean patient age was 12.3 ± 9.46 (range 2-26) years. In bilateral group, MRD₁ ranged from 1.1 to 3.1 mm in right eye and from 1.4 to 3.6mm in left eye. In unilateral group, The MRD₁ on the affected side ranged from -0.1 to 3.4mm and the nonoperated eyelid was 3.7mm. The overlap coefficient obtained in the bilateral group was $92.4\% \pm 6.5$ SD and in the unilateral group was $93.8\% \pm 5.1$ SD. There was no difference between the overlap coefficient for both groups ($p = 0.4252$).

Conclusions: The upper eyelid contour is highly symmetrical in patients with congenital blepharoptosis who underwent Frontalis muscle flap in unilateral or bilateral cases.

PLM04

Acute idiopathic tarsal ectropion in young- case series

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Background: Tarsal ectropion is an unusual form of eyelid malposition where the entire eyelid is everted. Disinsertion of the lower lid retractors and tractional forces on the anterior lamella are the possible etiology. Tarsal ectropion in young is rarely being reported.

Methods: Retrospective interventional case series of two patients.

Results: Case 1 -A 23 years old female presented with ectropion of left lower lid of sudden onset. Initially she was managed conservatively and later underwent retractor re-insertion under local anaesthesia. One year later she developed recurrence of symptoms and underwent lid tightening with wedge resection . After six months she developed tarsal ectropion of right lower lid and underwent wedge resection with inverting sutures. There is no recurrence on 2 years follow up. Histopathology showed chronic inflammation of retractors. Case 2 -A 28 year old male presented with tarsal ectropion of both lower lid (left more than right). Right eye improved spontaneously and in left eye he underwent retractor re-insertion with lid tightening by lateral tarsal strip. He is asymptomatic at two years follow up.

Less prominent malar bones, posterior position of inferior orbital rim in relation to eye ball (negative vector orbit) and inherent retractor weakness could be probable explanation for acute idiopathic tarsal ectropion in the young. It can also occur as a variant of floppy eyelid syndrome.

Conclusions: Tarsal ectropion can occur in younger age group.Etiology can be multifactorial. Inflammatory etiology needs further research. Needs modification in the nomenclature. Management is a challenge and it can vary from observation to surgery.



PLM06

A comparison of the lateral tarsal strip with everting sutures and the Quickert procedure for involutional entropion

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Background/Aims: To provide evidence of statistically significant difference in the surgical outcome of the lateral tarsal strip with everting sutures (LTS+ES) versus the Quickert procedure (QP) in the treatment of involutional entropion.

Methods: In a prospective randomized comparative trial, 66 eyelids of 52 patients with primary involutional lower eyelid entropion were recruited. 36 eyelids were randomized to QP, and 30 eyelids were randomized to LTS+ES. Surgery was performed by a single surgeon. Postoperative follow up was scheduled after 2 weeks, 8 and 14 months. Successful surgery was defined as a normal eyelid position at rest and inability to induce entropion on forced eyelid closure at or before the 14-month follow-up visit.

Results: A total of 66 eyelids of 52 patients were enrolled in the study. Three patients did not complete follow up (1 did not attend the 8 months follow up visit, 2 did not attend 14 months follow up visit). Of the 63 patients, a single eyelid (success probability 0.97; confidence interval (CI) 0.92-1) in the QP group and 2 treated eyelids (success probability of 0.93; CI 0.85-1) in the LTS+ES group had a recurrence of a lower eyelid entropion after 14 months. There was no statistically significant difference in surgical failure between the LTS+ES vs. QP (Logrank test: $p=0.46$).

Conclusion: These data provide strong evidence that success rates at 14 months are similar in patients treated with either techniques (LTS+ES vs. QP).

PLM07

Cicatricial and tarsal ectropion: repair by myocunatenus flap and canthopexy

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Purpose: Repair lower eyelid cicatricial ectropion with tarsal component by myocutaneous flap from upper eyelid combined with canthopexy.

Methods: A prospective non-comparative case series undertaken in a public practice setting. Consecutive patients with moderate lower eyelid cicatricial ectropion and tarsal component; upper eyelid dermatochalasis underwent transfer of monopedicle myocutaneous flap from the upper eyelid combined with canthopexy. The main outcome measures included the occurrence of complications, eyelid position and aesthetic appearance.

Results: Seven cases of patients, all men with cicatricial and tarsal ectropion, repair using myocutaneous flaps and canthopexy. After a mean follow up of 12 months, all of the cases had the lower lid punctum facing postero-superior into the tear lake, showed lid globe apposition and satisfactory eyelid position. There were no cases of flaps failure or granuloma formation.

Conclusions: The use of a myocutaneous flap from the upper eyelid combined with a canthopexy suspension suture for repair of cicatricial with tarsal component ectropion may offer good eyelid position and function.



PLM08

Long-term management of orbital and periorbital plexiform neurofibromas in patients with neurofibromatosis type 1

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Objective: To describe the long-term follow-up and surgical management of patients with orbital and periorbital plexiform neurofibromas (OPPN).

Methods: Retrospective case series of patients with neurofibromatosis type 1 (NF1) who underwent surgery due to OPPN between 1993-2019. The analysis included the location and type of the neurofibromas, the number and type of procedures performed and whether there was continued neurofibroma growth after surgery.

Results: In the period of 26 years there were 11 patients (6 male, 5 female) treated surgically for OPPN or related complications. Five patients had orbital PN with (N=4) or without (N=1) eyelid extension; while six patients had eyelid and/or periorbital PN without orbital involvement. The neurofibromas were located on the right (N=2), left (N=6) or were bilateral (N=3). The average follow-up was 14 years (range 4-26 years). Altogether 31 surgical procedures were performed (average 2,8 per patient). The average age at the time of surgery was 43 years (range 4-56 years). Most frequent procedure was neurofibroma debulking, which often included ptosis surgery that was performed with either levator resection or frontalis suspension. Three patients underwent procedures to correct lagophthalmos that occurred as a complication of facial palsy after extensive debulking surgeries in the face and head region. Two patients underwent enucleation due to NF related complications. Both later developed post enucleation socket syndrome (PESS) that required several further procedures. Continued OPPN growth was documented in 73 % (8/11) of patients.

Conclusions: The advantage of the study is the long follow-up which was able to demonstrate that most patients with OPPN need repeated surgery, reflecting continued OPPN growth in children as well as adults with NF1. Surgical treatment is often difficult and not always aesthetically satisfying. Future clinical trials should focus on non-invasive treatments targeting the factors that affect growth of these lesions.

PLM09

Is there a role for Hyaluronic acid fillers in the management of congenital ectropion?

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Background: Non-surgical management with Hyaluronic acid (HA) fillers has been used successfully in children with congenital ectropion, as a temporising measure and in deferring invasive surgical intervention. Our case series demonstrates the effect of HA and it's greater success in conjunction with traditional skin grafting.

Methods: A case series of three children treated with HA for congenital ectropion and a review of literature.

Results:

Case 1: 2 year old girl with congenital ectropion of all 4 eyelids, presented with exposure keratopathy.

Restylane HA pre-tarsal injection reduced right upper and lower eye lid positions, but made no difference to the left eye. She developed left sided corneal perforation. A left lower lid skin graft subsequently allowed corneal healing.

Case 2: 3 year old girl with Downs syndrome and bilateral congenital ectropions had pre-tarsal Restylane HA injections. This helped reduce her palpebral apertures, but did not correct nocturnal lagophthalmos in her right eye. Right upper and lower lid skin grafts improved lagophthalmos and reduced corneal exposure.

Case 3: 1 year old infant with history of congenital ectropion as a result of congenital ichthyosis presented with lagophthalmos and secondary exposure keratopathy. Pre-tarsal Restylane HA allowed improvement in lagophthalmos and corneal ocular surface disease within 3 months.



Conclusions: HA fillers allow effective anterior lamellar expansion and improvement in approximation of the eyelids to the globe, thus mitigating exposure keratopathy from lagophthalmos and risks of amblyopia from eyelid patching and lubricant use. However, in the majority of patients, surgical intervention with skin grafting was required, suggesting that a combination of surgical and non-surgical intervention must be sought in extreme cases to prevent sight loss.

Eyelid I – Session

Friday, 13.09.2019, 9:40

ES0101

Primary eyelid basal cell carcinoma: a multicenter retrospective study

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Objectives: To investigate the association between the recently introduced 8th edition of the AJCC staging system (AJCC 8), histological grading and risk classification for primary eyelid basal cell carcinoma (BCC).

Methods: Retrospective, multicenter, observational case series of 222 patients undergoing radical surgical excision with histologic assessment of tumour margins for primary eyelid BCC at two institutions between 2008 and 2018. Patients with < 6 months of follow up were excluded. Outcomes measured included tumour location, histological subtype, AJCC 8 staging, margin infiltration and recurrence rate.

Results: A total of 222 cases were included over a 10-year period, with a mean (range) follow-up of 24.79 (6 - 120) months and a median (range) age of 70 (28-93) years. Nodular BCC was the prevalent histological subtype (59.1%) and the most common site was the lower eyelid (63.8%). Of the 222 specimens, 183 (82.43%), 17 (7.66%), 19 (8.56%) and 3 (1.35%) were staged as IA, IB, IIA and IIB respectively. The most common T category was T1a (64%), followed by T1b (18%) and T2a (8%). The most common histological subtype was nodular in IA category, and infiltrative in categories IB and IIA. Histologically, low risk BCCs were associated with lower AJCC staging (IA), whereas high risk BCCs were associated with AJCC stages IB and IIA ($p < 0.001$). Overall, surgical margin infiltration was found in 38.8% of cases, accounting for 37.36%, 41.17% and 47% in categories IA, IB and IIA respectively. Recurrence occurred in 5 cases (2.7%) classified as IA (4 T1a and 1 T1b) and in one case recorded as IIA (T2b), with a mean interval between tumour excision and recurrence of 3.8 months.

Conclusions: AJCC 8 staging system is strongly associated with primary eyelid BCC histological grading and risk classification. Validation studies of the prognostic value of AJCC 8 are warranted.

ES0102

The efficacy of propranolol in eyelid capillary hemangiomas

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Purpose: To evaluate the efficacy of oral propranolol in patients with upper eyelid capillary hemangiomas.

Methods: 26 eyes of 26 patients who have the risk of amblyopia associated with ptosis, who were also followed between Jan 2012 and April 2015, were enrolled in the study. Oral propranolol was started with the 1-2 mg/kg doses per day for all 26 patients, who do not have any contraindication for use of oral propranolol. All of the patients were examined at one week, one month and monthly intervals until the therapy was terminated upon total regression and were recorded.

Results: 10 (38%) were male, and 16 (62%) were female. Right eye of 15 patients (57%), and left eye of 11 patients were affected. Average age of the patients was 7,8 months (1 to 36 months), and the average duration of the treatment was 5,8 months (3 to 12 months). There was no need for further medical or surgical



intervention. Reduction of the size of lesions was observed with all patients, ptosis which can lead to deprivation amblyopia showed improvement during the follow-up period. After the initiation of the therapy, reduction in the lesion size was observed in two patients. However, lesion started to grow again within first month of the therapy termination, so the treatment had to start again. Two asthma attacks, which's occurrence was suspected to be in relation with the use of propranolol, were developed in one case. Eyelid hemangioma was found to be associated with Sturge-Weber syndrome in one case.

Conclusion: When hemangiomas appear within the first few months of life, rapid growth in size, upper eyelid hemangiomas have a higher risk of amblyopia. In the treatment of the upper eyelid capillary hemangiomas, when pros and cons of the intralesional corticosteroids are taken into account (due to their side effects), oral propranolol treatment may be a better alternative

ES0103

Eyelid reconstruction with rhomboid flap: a case series

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Introduction: Surgical defects that cannot be closed by direct approximation are often best closed with adjacent skin flaps. The rhomboid flap, first described by Limberg, is a transposition flap widely used to reconstruct defects in the periocular region, particularly in the medial canthus.

Objective: To describe the versatility and cosmetic result of a series of patients who have undergone an eyelid medial canthal reconstruction with a rhomboid flap.

Methods: This study consists of a retrospective data analysis of all patients who underwent eyelid reconstruction using a rhomboid-shaped transpositional flap, since 2016 at the Ophthalmology Department of CHUP.

Results: Ten patients were included, all of them had periocular lesions in the medial canthus that were excised, and the skin defect reconstructed accordingly. Surgery was performed under general anesthesia in 8 patients and 2 under local anesthesia. All the lesions were sent to pathology analysis: 8 were basocellular carcinomas, 1 seborrheic keratosis and 1 verruca vulgaris.

In eight cases, the excision had free anatomic and microscopic margins; widening of resection margins was needed in two patients with basal cell carcinomas. One of those patients had a lesion on the inferior eyelid, whose dimensions required a combination of techniques for skin defect closure: in this case, another flap was created using the Hachet's technique, while the rhomboid was used to fill the medial portion of the defect. In all cases, there were no major complications and the cosmetic result was highly satisfactory for both surgeon and patient.

Conclusion: Rhomboid flap seems to provide excellent cosmetic outcomes for a wide variety of defects, in part because it consists in the rotation of adjacent tissue to the defect with the same color, skin texture and thickness. In addition, it appears to be easily combined with other techniques.

ES0104

Dermal matrix grafts in eyelid reconstruction following Mohs surgery

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Objectives: To report results using human and porcine dermal matrix grafts in eyelid reconstruction after Mohs surgery.

Methods: A retrospective chart review of patients receiving dermal matrix grafts during eyelid reconstruction between 2013-2018.

Results: Human dermal matrix (AlloDerm™) grafts were used in 15 patients. The matrix was used as a posterior lamellar replacement without conjunctival covering in 3 lower eyelid defects, with subsequent partial contracture and atrophy after surgery in all cases. The material was positioned between conjunctival and anterior lamellar flaps in 11/12 upper lid procedures, and was left exposed to the globe in one case. The graft was placed away from the margin, deep within the eyelid in 6 patients and was used for marginal



repair in 6. Porcine dermal collagen matrix (*ENDURAGEN*[™]) grafts were used in 13 lower and 2 upper eyelid margin reconstructions, with the graft positioned between vascularized conjunctival and skin flaps. Excellent marginal eyelid contour was achieved in 13 patients, with mild eyelid margin irregularity in 2 cases. Infection or graft failure was not observed with either material. Four patients required therapy for postoperative trichiasis. Marginal cauterization was performed to treat persistent erythema in one patient. **Conclusions:** Porcine dermal matrix is more rigid than human matrix and may be preferred in the reconstruction of margin-involving defects when there is sufficient adjacent tissue laxity to create the necessary skin and conjunctival flaps.

Human dermal matrix may be left exposed posteriorly, although there typically is secondary atrophy and retraction of the lid margin. This material may be more advantageous in extensive eyelid reconstructions, where it is more deeply inset to replace aponeurotic and/or tarsal defects.

Porcine and human dermal matrix grafts are associated with few complications and allow a tissue-sparing approach to eyelid reconstruction, reducing the need for harvesting autogenous grafts and flaps.

ES0105

Assessing oral mucosal grafting: complications and postoperative outcomes in a broad collective of patients

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Objective: Mucosal grafting is a common technique to repair conjunctival defects. Of the available mucosal tissues, oral mucosa is easy to harvest and it is widely available. This makes it the preferred graft tissue for all indications requiring mucosal grafting. We analysed the post-surgical outcomes and rate of revisions, in order to explore the suitability of oral mucosa grafts, as the primary mucosal tissue to all indications.

Methods: We reviewed patient documentation of all patients with a history of oral mucosal graft surgery, performed at our clinic between 2012 and 2018, focusing on complications and revision rate.

Results: We analysed 173 oral mucosa grafts in 131 different patients. Tumour resection was the most common initial diagnosis, followed by surgical complications, post-enucleation, trauma, and ocular surface disorders. The pattern of complications and revision rates varied highly across initial diagnosis. The highest revision rates and frequency of complications was seen in patients with ocular surface disorders or chemical trauma.

Conclusion: A wide range of conjunctival defects can be treated successfully with oral mucosa grafting. While oral mucosa tissue is suitable for most conjunctival defects, defects that result from trauma or cicatricial surface diseases seem less suitable for oral mucosa grafting. These patients may benefit from alternative graft tissue or treatment options.

ES0106

En bloc lateral wedge resection for involutional entropion: a simplified technique

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Objectives: To report on a simplified technique for involutional entropion involving mass closure of a lateral wedge without tarsus to tarsus sutures.

Methods: We report a technique of en bloc excision with photos and videos of a lateral wedge with mass closure of the skin, orbicularis and tarsus into the lateral canthal ligament negating the need for grey line and tarsus to tarsus sutures.

Results: Over 10 consecutive eyes underwent the lateral wedge excision by the same surgeon with removal of all sutures at 2 weeks. We report 1 year data and present a video on the surgical technique and photos of pre and post operative patients. We report resolution of entropion in 100% of patients operated on and analyse complications and incidences of wound dehiscence.

Conclusions: This simplified technique may be used in the repair of involutional entropion requiring less dissection, surgical time and reduced incidence of granuloma as no sutures are retained. The cosmetic outcomes are shown today with no noticeable scar in most patients.



[Simplified lateral wedge resection for involutional entropion]

ES0107

Changes in refraction and visual acuity after upper eyelid blepharoplasties vs. combined blepharoplasties and posterior approach ptosis procedures

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Purpose: To evaluate surgically induced refractive changes (SIRC) and visual acuity (VA) changes after blepharoplasty combined with posterior approach ptosis surgery (Müller's muscle-conjunctival resection [MMCR]) versus upper eyelid blepharoplasty alone.

Methods: This is a prospective, comparative clinical study. Patients undergoing MMCR and blepharoplasty surgeries underwent comprehensive ophthalmic examinations preoperatively and 3 months postoperatively. SIRC were calculated with the 10-step Holladay method.

Results: Fifty-six patients participated in the study, 31 in the blepharoplasty group and 25 in the ptosis group. logMAR VA improved significantly after surgery in both groups ($P < 0.001$). In both groups, most patients showed significant change in SIRC sphere, and SE of more than 0.5D (For blepharoplasty group: 61.29%, 67.74%; For ptosis group: 72.72%, 72.72% respectively). Patients undergoing combined blepharoplasty ptosis surgery showed the greatest SIRC-cylinder.

Conclusions: Upper eyelid blepharoplasty with or without MMCR is associated with significant SIRC 3 months postoperatively. This may affect decision-making for all patients, especially for those who intend to seek refractive correction in addition to the index upper eyelid surgery.



ES0109

AS-OCT guided treatment of diffuse Conjunctival Squamous Cell Carcinoma with resection, Amniotic membrane graft and topical Mitomycin C

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Objective: To evaluate the efficacy of combined Limited surgical resection, amniotic membrane graft and topical mitomycin C in treatment of diffuse Conjunctival Squamous Cell Carcinoma (CSCC) diagnosed and followed up by anterior segment optical coherence tomography (AS-OCT).

Subjects and methods: A prospective study was performed on 24 eyes with diffuse CSCC. 15 eyes underwent lesion Limited resection followed by postoperative topical mitomycin C 0.04% eye drop (MMC group) while 9 eyes underwent complete excision and cryotherapy (no MMC group). Amniotic membrane graft was applied in all cases. The diagnosis was based on clinical and AS-OCT specific criteria of CSCC and was confirmed by histopathological results.

Results: The study population was similar between the two groups. Mean postoperative follow up was 27.1 ± 4.1 months. The mean extent of the limbal involvement was 7.0 ± 0.7 and 7.25 ± 0.6 clock hours in MMC and no MMC groups, respectively. The mean size of conjunctival defect after tumor excision in MMC group (60.8 ± 9.2 mm²) was significantly lower than in no MMC group (92.4 ± 17.3 mm²).

Histopathological diagnosis revealed invasive SCC in all specimens. The mean pre-operative conjunctival epithelial thickness decreased significantly in both groups at 2 years follow up. It decreased from 267 ± 24.2 & 256 ± 19.1 μ m preoperatively to 56.7 ± 11.6 & 60.4 ± 9.6 μ m at 2 years follow up in MMC and no MMC groups, respectively.

The mean number of MMC treatment cycles was 2.1 ± 0.85 cycles. Recurrence was recorded in zero (0%) and 1 (11%) patients at 2 years follow up in MMC and no MMC groups, respectively.

Conclusion: The treatment of diffuse CSCC with AS-OCT guided combined therapy includes limited surgical resection, AMG and postoperative topical MMC, achieves a complete tumor resolution and good functional and cosmetic outcomes minimizing the burden of surgery and improves postoperative patient comfort in our study cohort.

Eyelid II – Session

Friday, 13.09.2019, 11:35

ES0202

Palpebral temporal sling procedure for the correction of paralytic ectropion

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Objectives: Patients with paralytic ectropion mostly due to facial nerve palsy pose an oculoplastic surgical challenge. The main aims of treatment are to improve and correct eyelid laxidity, reduce vertical eyelid aperture and position the lower eyelid next to the eyeball. We present the results obtained with a dynamic procedure intended to improve eyelid motility and closure in patients with lagophthalmos.

Methods: Arion proposed in 1972 a technique to support superior and/or inferior eyelid in facial nerve palsy, by placing a silicone rod secured to the medial a lateral canthus. The efficacy of this procedure was limited by the elevated number of extrusions and loss of silicone tension. We propose a variation of this technique using temporal fascia. The technique consists of introducing a 6 cm by 2 mm strip of temporal fascia to support inferior eyelid secured in the medial canthus tendon and in an ostial tunnel in the lateral orbital rim. Four patients with paralytic ectropion and chronic lagophthalmos due to facial nerve palsy underwent this rehabilitative eyelid surgery.

Results: There was a significant reduction of lagophthalmos and corneal signs of exposure keratopathy in all patients, with a good aesthetic result. No major complications were associated with the procedure during a follow up period of more than a year.

Conclusions: By using and autologous graft, an excellent support of the inferior eyelid is achieved without the risk of material rejection. The fixation of both the medial and lateral canthus offers a good apposition of the eyelid to the globe, especially of the medial component, difficult to correct in paralytic ectropion. The described technique provides a satisfactory result, tightening and suspending the lower lid by addressing the excessive horizontal laxity, with improved lid function and ocular comfort.

ES0203

Müller muscle conjunctiva resection for revision of residual ptosis after external levator advancement surgery

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Background: To evaluate surgical outcomes of Müller muscle-conjunctival resection (MMCR) surgery for reoperation of residual ptosis following external levator advancement (LA) surgery in patients with aponeurotic ptosis.

Methods: The charts of 23 eyes of 23 patients operated between January 2016- July 2018 were reviewed retrospectively. Inclusion criteria were residual ptosis ≤ 2 mm after at least six months follow-up of LA surgery, good levator excursion of >10 mm, elevation of the upper eyelid after instillation of 2.5% phenylephrine drop in the upper conjunctival fornix. The amount of excision was 9 mm when symmetry with the contralateral eyelid was achieved with phenylephrine test. If the testing resulted in 1 mm undercorrection, 10-11 mm was resected and when the testing resulted in overcorrection, 8 mm resection was performed. Margin-reflex distance measurements (MRD1) were performed before the procedure and on the tenth day, at the second and fourth months after the procedure.

Results: The mean MRD1 before the operation which was 2.1 ± 0.6 mm increased to 3.5 ± 0.8 mm at the second month and 3.6 ± 0.92 mm at the fourth month follow-up ($p=0.003$, $p=0.001$, respectively, paired sample t test). Interlid MRD1 difference was ≤ 1 mm in all patients. None of the patients had lagophthalmos and/or eyelid contour abnormality.

Conclusions: For the revision of the patients with residual ptosis after LA, MMCR should be considered as an alternative approach due to advantages of less tissue dissection, absence of cutaneous scar at the eyelid crease, shorter operation time, elimination of the need for patient cooperation and intraoperative adjustment.



[Photographs of patients before surgeries (1A, 1D), after LA (1B, 1E), after MMCR (1C, 1F)]



ES0205

The effect of ptosis repair versus upper blepharoplasty on upper and lower eyelid position

Ofira Zloto¹, Noa kapelushnik¹, Daphna Prat¹, Ari Leshno¹, Guy Ben Simon¹

¹Sheba Medical Center, Tel Hashomer, Goldschleger Eye Institute, Ramat Gan, Israel

Background: Change in lower eyelids position after ptosis repair and blepharoplasty are important unplanned change that can effect doctors and patients' decision. The purpose of this study was to examine the changes in upper and lower eyelid position after ptosis repair surgery versus blepharoplasty.

Methods: Medical record review of all patients who underwent blepharoplasty and ptosis repair surgery during 1.1.2016-1.9.2017 was retrieved. Demographic as well as clinical data were collected. Digital photographs were taken preoperatively and 3 months postoperatively. Marginal reflex distance (MRD) 1 and 2, palpebral and fissure height (PFH) were measured from digital photographs using ImageJ software.

Results: 257 eyes of 143 patients participated in the study. 54 patients (108 eyes) underwent blepharoplasty surgery while 89 patients (149 eyes) underwent ptosis surgery.

There were no changes between groups before surgery regarding to : MRD2, lower scleral show, Superficial punctate keratitis (SPKs) ($p=0.758, 0.832, 0.373$). After surgery, MRD-2 was significant higher in ptosis group compare to blepharoplasty group and there were more SPKs in ptosis group ($p=0.045, 0.037$ accordingly).

Regrading to ptosis group, MRD-1 as well as MRD-2 has been increased significantly in the eye that operated after surgery in comparison to before surgery ($p< 0.01, p=0.027$, accordingly), while in the eye that didn't operated no significant changes were found after surgery ($p= 0.804, 0.804$ accordingly). Differences after surgery in comparison to before surgery in MRD1 and MRD 2 were not found in blepharoplasty group ($p=0.501, 0.345$ accordingly).

Conclusions: MRD-1 changed, as expected, in patients that underwent ptosis surgery but not in patients that underwent blepharoplasty surgery. We found also that MRD-2 changed after ptosis surgery. Moreover, dry eye symptoms developed after ptosis surgery but not after blepharoplasty surgery. Those unexpected changes should take under consideration before the ptosis repair surgery and should be discussed with the patients.

ES0206

Effect of upper eyelid blepharoplasty on the ocular surface and the tear film

Yonca Ozkan Arat¹, Orhan Aygun¹, Sibel Kocabeyoglu¹, Ozlem Dikmetas¹, Jale Karakaya², Ata Baytaroglu¹, Murat Irkeç¹

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Objective: To evaluate the effect of upper blepharoplasty on the tear film and ocular surface. Although many retrospective studies suggest that blepharoplasty increases dry eye complaints, prospective studies evaluating the symptoms, tear function tests and ocular surface are lacking in the literature. This is the first study evaluating the ocular surface microstructure after blepharoplasty.

Methods: This is a prospective study including 30 eyes of 30 consecutive patients (1 male, 29 female) with a mean age of 60,6 years (Range: 41-75 years) undergoing upper eyelid blepharoplasty between April 2016 - July 2018. Upper blepharoplasty alone with partial orbicularis excision was performed in all patients by the same surgeon. Patients with a history of Sjogren syndrome, ocular surface pathology and previous eyelid surgery are excluded. All subjects completed the Ocular Surface Disease Index (OSDI) questionnaire and underwent tear film break-up time, Fluorescein and Lissamin Green staining measurements and Schirmer II test before, 1 month, and 6 months after surgery. In vivo confocal microscopy (IVCM) was performed in all patients. Epithelial cellular density, anterior and posterior keratocyte density, subbasal nerve plexus density, long and total nerve fiber count and nerve tortuosity was calculated.

Results: 30 patients were included. There was a significant increase in corneal Fluorescein and Lissamin Green staining, OSDI index and a significant decrease in tear break- up time between the baseline and postoperative month 1 ($p < 0.01$) and month 6 ($p < 0.01$). Schirmer II test score did not differ statistically



during the follow-up. None of the IVCN parameters showed significant change during the study.

Conclusion: Decrease in tear film stability and increase in ocular surface staining along with increased dry eye symptoms were observed in patients undergoing upper eyelid blepharoplasty. Corneal microstructure was not affected. Blepharoplasty with only skin removal might overcome this problem.

ES0207

The effect of diabetes mellitus on eyelid aperture

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Objective: To examine the effect of diabetes mellitus (DM) on eyelid and pupillary apertures and the possible relationship between blepharopathy and pupillopathy.

Methods: In this prospective study, eyelid and pupil measurements were performed in 110 patients with DM (46 female, 64 males; mean age: 64.2 years) and 110 healthy controls (47 females, 63 males; mean age: 64.4 years). Biomicroscopic infrared photography was used for eyelid measurements and automatic infrared pupillometry for pupil measurements. In both groups, the responses of eyelid and pupil to a weak adrenergic stimulus (0.5% apraclonidine eyedrop) were examined.

Results: The mean eyelid aperture height and margin-reflex distance¹ (MRD¹) were 8.22 ± 1.36 mm and 3.01 ± 0.91 mm in the DM group and 9.34 ± 1.32 mm and 4.11 ± 0.91 mm in the control group, respectively ($P < 0.001$). There were significant differences between the DM and control groups for the pupil measurements (minimum and maximum pupillary diameters, the velocity of pupil dilation, constriction and latency) ($P < 0.001$). Apraclonidine eyedrop significantly increased MRD¹ in the DM group compared to the control group (0.87 ± 0.59 mm vs 0.13 ± 0.50 mm, $P < 0.001$). While apraclonidine drop resulted in a significant increase in maximum and minimum pupil diameters in the DM group ($P < 0.001$), there was no change in the control group ($P > 0.05$).

Conclusions: Diabetes mellitus can cause narrowing in the eyelid aperture as well as in the pupil. The correlation between pupillopathy and blepharopathy and their response to a weak adrenergic agent suggest that blepharopathy may also be caused by a sympathetic denervation neuropathy such as diabetic pupillopathy.

ES0208

Can upper lid everting surgery improve dry eye symptoms in patients with Meibomian gland inversion not responding to treatment?

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Background: To describe a case series of patients who underwent surgical treatment for Meibomian gland inversion (posterior migration of the meibomian gland orifice) in the upper lid, secondary to cicatricial Meibomian gland disease not responding to maximal medical management.

Methods: This was a retrospective, non-comparative, interventional case series of all patients who underwent an upper eyelid everting surgery with placement of everting sutures through a skin crease incision with or without Blepharoplasty, between July 2017 and Jan 2019. The patients underwent surgery for meibomian gland inversion (MGI) with symptoms consistent with ocular surface disease and continued to remain symptomatic despite maximal medical therapy.

The surgical and functional outcomes are discussed including symptoms, meibomian gland position, extent of ocular surface disease and duration and type of medical treatment preceding surgery.

Results: 7 eyes of 5 patients were included in the study. All patients had been referred from cornea clinic, where various medical therapies, including lubricants, topical steroid, topical cyclosporin, lid hygiene and oral doxycycline, as well as bandage contact lens trial, in some cases, were tried. All patients had



persistent symptoms and superior ocular surface staining secondary to MGI. On average patients were treated for 7.5 months before referral for lid surgery, with one patient being referred 11 years after her initial consultation. Following surgery meibomian gland eversion was achieved in all eyes (100%). 85% of eyes had symptomatic improvement and 100% had improved superior ocular surface staining at follow up.

Conclusion: A simple upper lid everting surgery can be effective in managing patients with MGI giving them symptomatic relief when all medical treatment fail. To the best of our knowledge, this is the first case series describing this simple surgical technique in the management of MGI.

ES0209

Endoscopic corneal neurotization with ipsilateral versus contralateral supraorbital nerve transfer

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Objectives: It is currently unclear if hypesthesia in the supraorbital nerve territory is a contraindication to ipsilateral supraorbital nerve transfer for the treatment of neurotrophic keratopathy. The goal of this study is to compare the efficacy of endoscopic corneal neurotization using an ipsilateral versus a contralateral supraorbital nerve branch in patients with neurotrophic keratopathy and ipsilateral supraorbital nerve hypesthesia.

Methods: Retrospective case series of four patients with facial and trigeminal nerve involvement secondary to intracranial tumor removal. All underwent simultaneous or prior facial reanimation. All four patients had complete corneal anesthesia prior to surgery, central corneal scarring and severely impaired vision (LP to HM) in the affected eye. In addition, all patients presented with severe hypesthesia in the territory of the ipsilateral supraorbital nerve.

Results: Two patients were treated with ipsilateral and two with contralateral supraorbital nerve transfer using the endoscopic approach. Visual acuity improved from LP to 20/80 in the ipsilateral group and from HM to 20/100 in the contralateral group. Corneal sensation improved from complete anesthesia to mild hypesthesia in all patients. Central corneal scar decreased in size and density in all patients. In vivo confocal microscopy was done in two patients and showed new nerve branches in the corneal stroma.

Conclusions: Ipsilateral endoscopic corneal neurotization with a hypoaesthetic supraorbital nerve is at least as effective as contralateral supraorbital nerve transfer. Ipsilateral endoscopic corneal neurotization has many advantages over contralateral nerve transfer including: less morbidity, shorter operative time and the transfer of a larger trunk of supraorbital nerve to the neurotrophic cornea. This could explain the faster recovery of visual function and corneal sensation seen with the ipsilateral supraorbital nerve transfer. Further confocal microscopy studies are under way to compare quantitatively the density of the new, stromal nerve fibers between the groups.

ES0210

Comparison of open and closed methods of Fox pentagon silicone rod tarso-frontalis suspension surgery for congenital lid ptosis

Aashish Raj Pant¹, Purushottam Joshi¹

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Purpose: To compare the outcomes of open and closed methods of tarsofrontalis suspension surgery.

Methods: 40 cases of unilateral congenital lid ptosis with poor levator function ($\leq 4\text{mm}$) who underwent silicone rod tarsofrontalis suspension surgery during 1.5 years study period were included in the study. After appropriate preoperative ptosis evaluation, the cases were randomly divided into 2 groups (20 cases each). Each group employed Fox pentagon technique with either lid crease incision (open method) or supraciliary stab incision (closed method). Intraoperatively, final lid height was adjusted at around 1.5-2mm above other eyelid's level. Postoperative outcome measures included wound status, Vertical Fissure Height (VFH), Margin Reflex Distance (MRD), lagophthalmos, contour of eyelid and symmetry with other eyelid. Evaluation was done on first postoperative day, 6 weeks, 3 months and 6 months. Good ptosis



correction was termed if MRD1 was within 1mm of other eyelid at 6 months. Lid crease acceptability was asked to the patient at 6 months follow-up and recorded.

Results: Preoperative evaluation revealed amblyopia in 50% cases. Ptosis amount ranged from 3-10mm. Postoperatively, lagophthalmos was present in 100% cases which was normalized (< 1mm in 34 cases) by 6 weeks. Majority of the cases had good ptosis correction (90% open group, 85% closed group). Cosmetic outcomes were better in open group; 100% cases had acceptable eyelid crease in open group compared to only 75% cases in closed group.

Conclusions: Both methods of ptosis correction yielded good outcome, but eyelid contour and eyelid crease were better accepted in open method

Orbit I – Session

Friday, 13.09.2019, 14:00

OS102

Indications, outcomes, complications and trends in 500 consecutive decompression surgeries by a single surgeon

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We present data from 500 consecutive decompression surgery performed or supervised by a single surgeon at Moorfields Eye Hospital.

Decompression surgery performed/supervised by a single surgeon was analyzed over a 10 year period with at least 6 months follow up.

Indications, outcomes and complications will be presented.

An analysis of trends in decompression will be discussed.

OS101

The effect of prostaglandin analogue bimatoprost on thyroid associated orbitopathy

Catherine Choi¹, Wensi Tao¹, Ravi Doddapaneni¹, Zenith Acosta-Torres¹, Nathan Blessing¹, Bradford Lee¹, Daniel Pelaez¹, Sara Wester¹

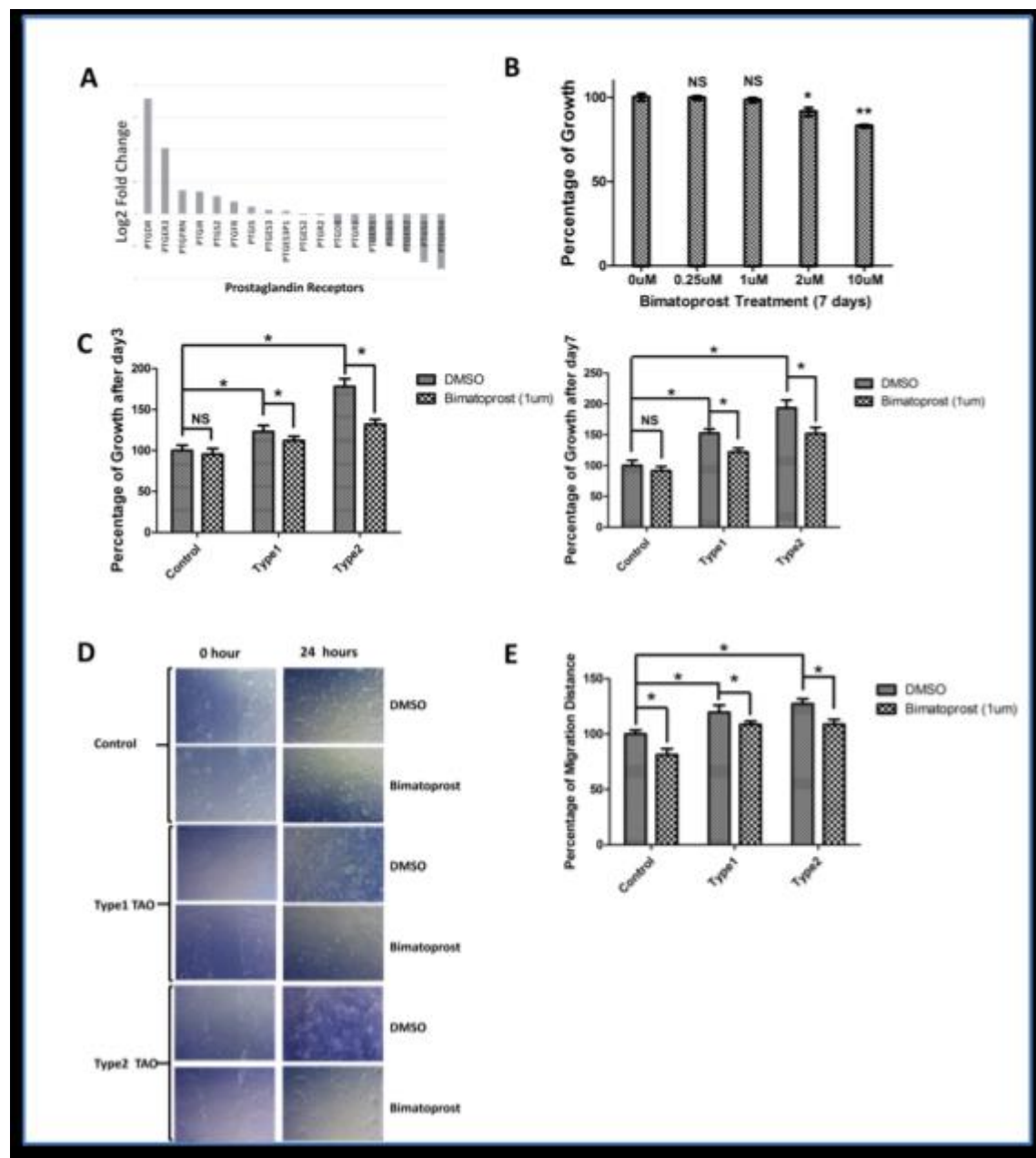
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Objectives: To characterize the effect of bimatoprost on orbital adipose tissue in thyroid-associated orbitopathy (TAO) with clinicopathologic correlation.

Methods: Orbital adipose-derived stem cells (OASCs) from type 1 and 2 TAO and control patients with and without exposure to 1 µm bimatoprost were examined via immunohistochemistry, RT-PCR, and western blot for cell viability, migration capacity, lipid content, adipocyte morphology, mitochondrial content, and levels of adipogenic markers. Retrospective chart review was performed for clinicopathologic correlation. In mice, optical coherence tomography and pattern electroretinography were performed at baseline and at one month following a retrobulbar injection of bimatoprost, followed by orbital exenteration for histopathological examination.

Results: Both type 1 and type 2 TAO-derived cells had a significantly higher migration capacity and lipid content than those of healthy controls (Figure 1). With the addition of bimatoprost, type 1 and 2 TAO and control adipocytes exhibited a significant decrease in lipid content with morphologic transformation into smaller and multilocular lipid droplets, and an increase in mitochondrial load and UCP-1 expression consistent with an increase in brown adipose tissue turnover. Retrobulbar injection of bimatoprost in mice did not alter the gross morphology, retinal thickness, or ganglion cell function in vivo.

Conclusions: Bimatoprost inhibits adipogenesis in OASCs and upregulates pathways involved in the browning of adipocytes. Furthermore, retrobulbar injection of bimatoprost is tolerated without immediate adverse effects in mice. The results of this study suggest a potential future application of prostaglandin analogues in the treatment of TAO.



[Figure 1]



OS103

Orbital exenteration versus surgical excision in patients with periocular squamous cell carcinoma. A survival analysis study

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Objectives: To analyze survival rate in patients with periocular G3 squamous cell carcinoma (SCC) who underwent orbital exenteration compared to those treated with surgical excision. To evaluate the significance of the following risk factors for exenteration: tumor locations, histologic subtype and margin involvement.

Methods: Charts of 32 patients with SCC referred to Orbital Unit of University of Naples "Federico II" between 1975 and 2018 were reviewed. Survival curves were constructed using the Kaplan-Meier method to account for censored survival times and were compared with the log-rank test. Associations between categorical variables were analyzed using the chi-square test. A P value < 0.05 was considered statistically significant.

Results: The mean patients' age was 75 years (range 44-96). Out of 32 patients, 13 underwent exenteration whereas the remaining 19 were treated with surgical excision.

The distribution of histologic subtypes among the 13 patients was: G3 (85%), G2 (7,5%), G1 (7,5%).

Margin involvement was present in 10 out of 11 patients with G3 SCC and in the patient with G2 SCC. All patients underwent exenteration died with mean follow-up period of 24 months (range 4-190).

The distribution of histologic subtype among the 19 patients underwent surgical excisions was: G3 (58%), G2 (27%), G1 (15%). Margin involvement was present in 5 patients with G3 histologic subtype. Out of 19 patients, 11 died with mean follow-up of 86 months (range 2-210).

The hazard rates differed between patients with G3 SCC treated with exenteration or with invasive G3 treated with excision ($p = 0.001$). In particular, overall survival was higher in patients treated with excision. Only margin involvement, as risk factor, was statistically different between patients treated with exenteration or excision (p value= 0.01).

Conclusions: Orbital exenteration does not seem to improve overall survival in patients with G3 SCC compared to surgical excision.

OS104

Does optic nerve stretch cause dysthyroid optic neuropathy?

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Background: Dysthyroid optic neuropathy is almost certainly due to an ischaemic neuropathy, the ischaemia resulting from compression of the optic nerve(ON) microvasculature at the orbital apex. There is, however, also a widely-held view that ON stretch also causes neuropathy -- although there is no reported evidence to support this contention, and neuropathy is often absent with marked exophthalmos due to retrobulbar masses.

Methods: All measurements were made by a masked observer: the distance between the ON head and the annulus of Zinn ("ONL") was measured from axial CT scans in both orbits, using the best axial section that included both ONs throughout their length. Measurements were undertaken in 79 patients with dysthyroid optic neuropathy ("DON" group) and a cohort of 79 age- and sex-matched patients with thyroid eye disease (TED) without DON ("control" group). The shape of the ONs in all scans were also judged to be "straight", "slightly curved", or "markedly curved".

Results: The mean ONL in 121 DON orbits (42 bilateral, 37 unilateral) was 33.0mm (median 33.1; range 22.8-44.5mm), as compared with the 121 ipsilateral control orbits 31.3mm (median 31.5; range 22.5-40.9mm) ($p=0.0018$). Likewise, 5 patients in the "DON" group had bilateral TED, but only unilateral DON: The mean ONL on the DON side was 37.4mm (median 35.2; range 22.2-42.7mm) and 34.7 (median 32.1; range 29.3-36.1) on the contralateral TED orbit ($p=0.032$). The proportion of patients with each ON



configuration was almost identical in the DON group and the control group ($p=0.94$).

Conclusion: Although the ONL is significantly longer in DON orbits, the difference is small and evidence from the study suggests that the longer ONL is a manifestation of greater proptosis, rather than causing the nerve to be stretched to the limits of its inherent elasticity. It is likely, therefore, that ON stretch is insignificant in causing DON.

OS105

Zirconium-89 labelled rituximab PET-CT in orbital inflammatory disease

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Background: Orbital inflammatory diseases are a heterogenic group of conditions that often entail a difficult diagnostic process and many patients are treatment resistant. Inflammatory diseases can be visualized by Zirconium-89 labelled rituximab PET-CT (⁸⁹Zr-rituximab PET/CT). In this study we describe our experience and possible potential of the ⁸⁹Zr-rituximab PET/CT for diagnostic and therapeutic management of refractory orbital inflammation.

Methods: Retrospectively, ⁸⁹Zr-rituximab uptake was assessed and related to clinical data. The main outcome measures were the characteristics of the scan and the clinical relation of uptake with the diagnostic process and treatment effectivity.

Results: Twelve patients with thyroid eye disease (TED) and suspected idiopathic orbital inflammation were scanned. Six patients had a strong ⁸⁹Zr-rituximab uptake and showed a focal distribution within in the lesion. Four patients (one TED, three IOI) responded well to rituximab treatment after a positive scan. ⁸⁹Zr-rituximab PET/CT was essential to the diagnosis of optic nerve meningioma in one patient.

Conclusion: ⁸⁹Zr-rituximab PET/CT has the potential to be a powerful tool for the detection of B-cell mediated disease within the orbit and ocular adnexa. This technique can be a valuable addition for diagnosing diseases around the eye and can potentially predict rituximab treatment response in patients with refractory inflammation.

OS106

Visual field and orbital computed tomography correlation in compressive optic neuropathy due to thyroid eye disease

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Background: The pathogenesis of compressive optic neuropathy (CON) in thyroid eye disease (TED) is thought to be compression of the apical optic nerve by hypertrophied extraocular muscles. We correlated worsening CON to the area occupied by extra-ocular muscles.

Methods: Records of adults with TED CON evaluated from 1/1/2013 to 1/1/2018 were retrospectively reviewed. Each patient's visual field with the worst mean deviation (MD) was selected. Orbit CT scans were reviewed. Reformatted oblique coronal images were created perpendicular to the optic nerve. The cross sectional surface area (CSA) of the orbit and each muscle group was measured and expressed as ratios of the CSA of the orbital apex. Univariate and multivariate analysis was performed for predictors of HVF MD.

Results: 34 orbits with TED CON were analyzed. On orbital CT, the superior muscle complex occupied 15% of the apex (range 6-26%), inferior 18% (range 6-33%), lateral 10% (range 4-18%), medial 17% (range 8-27%), and all combined 61% (range 28-80%). Increasing total muscle area and superior complex area correlated with worsening MD. In multivariate linear regression, the superior muscle complex remained a significant predictor of MD ($p=0.01$) over total muscle area ($p=0.25$).



Conclusions: Enlargement of extraocular muscles is common in TED, but CON occurs in only 6%. Our findings demonstrate that as CON worsens, the superior muscle complex crowds the apex. This is consistent with the typical inferior visual field findings seen in TED CON. Hypertrophy of the superior rectus and levator palpebrae superioris complex may be predictive of worsening CON.

OS107

Vertical restrictive strabismus: similar clinical signs, different etiopathogenetic causes

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Background: To report the different peculiar pathogenesis of three similar cases of severe vertical restrictive strabismus.

Methods: Small case series of three patients who presented to our outpatient clinic with a 10-12 months history of left gradually progressive unilateral proptosis, pain, and slowly worsening vertical strabismus with diplopia. The left eye appeared blocked in downward position in all cases. Patients were otherwise healthy with no history of systemic disease, previous treatments and trauma. The following examinations were ordered: full blood cell count, angiotensin-converting enzyme, c-reactive protein, rheumatoid factor, serum IgG4 levels, FT3, FT4, Thyroid stimulating antibodies and contrast enhanced MRI (Magnetic Resonance Imaging).

Results: Patients had 46, 30 and 60 years respectively. MRI showed left extra-ocular muscle enlargement (EME), involving the inferior rectus in two cases and the superior rectus in the remaining one. Combined muscle belly and tendon enlargement with diffuse and homogeneous contrast enhancement was observed in all the patients. The mean vertical strabismus measured 55 PD in primary position (range: 45-65 PD). Patients underwent forced duction test, muscle weakening (in two cases) and muscle biopsy with histopathological examination. The superior rectus appeared infiltrated by a rare malignant mesenchymal neoplasia, whereas the two inferior recti were positive for sclerosing IOID and neuromuscular choristoma respectively.

Conclusions: Although thyroid associated orbitopathy (TAO) is by far the most frequent cause of single or multiple EME, additional causes include a wide range of non-thyroid local and systemic conditions including inflammatory, vascular and neoplastic disease. Due to the frequently overlapping clinical and imaging features, the diagnosis of these conditions can be challenging, often requiring the cooperation between ophthalmologists, radiologists, internists, rheumatologists and oncologists. The three reported cases showed indeed similar clinical features but distinct and extremely rare orbital etiologies.

OS108

Real-world use of non-echo-planar diffusion-weighted magnetic resonance imaging for detection, disease monitoring and clinical decision-making in graves' orbitopathy

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The Clinical Activity Score (CAS) is widely used to grade activity of Graves' Orbitopathy (GO) and guide treatment decisions but has a number of limitations. Non-echo-planar diffusion-weighted magnetic resonance imaging (non-EPI-DWI) of the extra-ocular muscles (EOMs) may be able to address some of the limitations posed by CAS and other imaging techniques but the correlation with CAS is unknown.

Methods: A retrospective observational study of 31/88 patients seen in a multidisciplinary GO clinic over a 5 year period who had at least one ophthalmic and endocrine assessment including CAS score and non-EPI-DWI Apparent Diffusion Coefficient (ADC) calculation. Spearman's rank correlation coefficient was used to determine the relationship between CAS and non-EPI-DWI. A Decision Tree was constructed to



evaluate clinical decision-making and Receiver-Operator Curves (ROC) were generated for mild GO and dysthyroid optic neuropathy (DON).

Results: In total, 60 non-EPI-DWI scans (368 EOMs) were evaluated. There was a significant positive correlation between CAS and ADC ($rs=0.403$ CI 0.312-0.489, $P<0.0001$). ADC values were significantly higher in the CAS ≥ 3 group compared to the CAS < 3 group, $P<0.0001$. Our Decision Tree identified a third 'intermediate' severity cohort where non-EPI-DWI was particularly useful in guiding clinical decisions. ADC performed well as a diagnostic test in predicting DON (AUC 0.974 95% CI 0.93-1.0).

Conclusions: Correlation of CAS with non-EPI-DWI in Graves' Orbitopathy Non-EPI-DWI correlates well with CAS in our patients and was a useful adjunct to CAS in making clinical decisions especially in patients with 'intermediate' severity GO and may also be useful in identifying patients at risk of DON.

OS109

The result of intraconal and extraconal fatty decompression

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Background: Fundamental treatment for exophthalmos due to thyroid eye disease (TED) is orbital decompression that removes orbital fat and/or bone. We perform decompression surgery mainly on orbital intraconal and extraconal fat decompression, and report the result.

Methods: One-hundred and forty patients underwent bilateral fat decompression among 166 TED patients who underwent orbital decompression with day surgery under general anesthesia for 19 months from April 2017 to October 2018 at Shinmaebashi Kashima Oculoplastic Clinic and Oculofacial Clinic Tokyo were enrolled in this study. We analyzed patient's age, operation time, change in Hertel's measurement before and after surgery, amount of resected orbital fat and the narrowest angle of diplopia from binocular single vision test (NAD).

Results: The mean age of the patient group was 41.4 ± 13.1 years (13-78) and the mean operating time was 49 ± 18 minutes (16-90). Protrusion decreased by an average of 3.5 mm from 19.3 ± 2.9 mm before surgery to 15.8 ± 2.2 mm after surgery. The amount of fat removed was an average of 4.0 ± 1.3 cc. The amount of fat removal to improve 1 mm of the exophthalmos was 1.1 cc. The NAD decreased from 35.4 degrees before surgery to 26.3 degrees at 1 month after surgery, but improved to 30.1 degrees and 31.0 degrees in 3 months and 6 months respectively.

Conclusions: There was a certain correlation between the amount of fat resection and the change in the degree of protrusion of the eyeball. Although NAD decreased once after surgery, improvements were seen at 3 months and 6 months respectively, but they did not improve to the preoperative values. This course is presumed to be due to the wound healing mechanism of the intraorbital tissue.



Aesthetic - Session

Friday, 13.09.2019, 15:30

A02

Small incision lower blepharoplasty

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Blepharoplasty is second only to breast augmentation as most demanded cosmetic surgery. Technique is tailored to individual patient needs and demands. Many procedures had been described, involving excision of skin only, fat only, or skin & muscle, as well as fat re-draping with or without various ligaments repair. A non-thought-of fat excision through a small sub-ciliary mid-lid incision is described and evaluated in this paper.

Patients and methods: Eleven bilateral lower lid bulge patients (22 lids) underwent fat-only excision through a 4 mm mid-lid sub-ciliary skin incision. Incision was sutured using 2 interrupted 6/0 proline, removed a week later.

Results: Pt satisfaction was 100% (on a structured scale survey of 10 grades). Mild to moderate lid hematoma occurred in 16 (73%) lids, and malar hematoma in 4 (18%) lids. Tear-trough accentuation occurred in 2 (6%) lids, and ectropion in 0%.

Discussion: In comparison to previously published series reporting bigger incisions, the complication rate was less in this small incision technique.

Conclusion: Despite those heralded results, a randomized controlled or a comparative trial is still needed to evaluate the promising technique.

A03

Surgical management of superior sulcus hollowing using autologous fat flaps or grafts

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Background: Superior sulcus hollowing, especially if unilateral, poses a significant cosmetic problem. Different methods and techniques were previously described, however complete and long-lasting management of this condition may be challenging.

Methods: For bilateral cases, after limited skin excision, orbicularis and septum was opened and all fat pads were decapsulated to obtain freely mobile fat flaps. Medial flap was pulled laterally and attached to the central fat pad. Then, the united single large fat flap pulled superolaterally was sutured to underneath the lateral-most portion of the orbicularis muscle.

For unilateral cases, following limited skin excision and incision of orbicularis muscle, and the septum, all fat pads were released. Dermis-fat graft 30X10X10mm obtained from the left lower abdomen was transferred to the defect with dermal side up. Superior dermis line was continually sutured to the superior fat capsule, while the inferior portion of the graft was snug into the sulcus. The superior skin-orbicularis flap was then draped over the graft to assess the desired volume effect, and fat was trimmed further, if necessary.

Results: Fat transposition cases had excellent nasal filling, however temporal hollowing was not as effectively corrected as dermis-fat graft cases. Healing of the bilateral cases with fat transposition was eventless, however settling of the postoperative course was slow in unilateral cases that underwent dermis-fat graft transfer, lasting an average of 1 month before the swelling subsided. The only temporary complication was ptosis in graft cases that lasted between 1-3 months. All cases had symmetric and stable results during follow-up for at least 24 months.

Conclusions: Autologous fat surgery may provide permanent solution to hollow superior sulci. Surgical correction with fat transposition in bilateral cases and dermis-fat graft in unilateral cases provided effective and safe correction of this deformity without the risk of compromising periorbital structures and eyelid functions.



A04

Volume augmentation upper eyelid blepharoplasty, a better look

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Purpose: Assessment of the aesthetic outcome of volume augmentation upper lid blepharoplasty compared to the traditional technique.

Method: This is a randomized, prospective, comparative double-blinded study that took place from January 2017 to December 2018. The study included 80 eyes of 40 female patients with dermatochalasis with or without orbital fat prolapse, patients were divided into two groups; Group A underwent classic upper lid blepharoplasty with orbicularis resection and fat excision. Group B underwent volume augmentation upper lid blepharoplasty with orbicularis oculi sparing and nasal fat pad transposition. Results were assessed regarding various measurements including margin crease distance, tarsal platform surface, marginal reflex distance, palpebral fissure height, brow upper lid distance, and patient satisfaction including assessment by 2 blinded physicians.

Results: Patients were followed up for 3 months. Both groups showed improved measurements especially tarsal platform surface which rose from 2.75 ± 1.33 mm to 6.95 ± 2.35 mm in group A, and from 2.95 ± 1.39 mm to 6.15 ± 1.79 mm in group B. Aesthetic assessment by both blinded physicians included scoring for symmetry, incision scar, upper lid fullness, and surgical look. It showed better scoring for the volume augmentation group.

Conclusion: Preserving Orbicularis Oculi muscle during upper eyelid blepharoplasty may help improving aesthetic appearance and patient satisfaction after surgery.

A05

Use of plasma energy as an alternative to surgical approaches for periocular skin problems

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Objective: Plasma energy ionizes the gaseous nitrogen and water and causes rapid rejuvenation on the skin surface. This study was performed in an attempt to observe the effect of plasma energy use for upper and lower blepharochalasis, droopy brow, crows feet, lower lid wrinkles, asymmetry problems and surgical scars and to measure its efficiency as a potential surgical alternative.

Methods: Ninety patients (14 males, 76 females, between 24 and 95 years of age) were included in the study. Every patient underwent 2 treatment sessions under topical and local anesthesia, 2-to-3 months apart. The procedure was tailored according to the patients' indications and severity of symptoms using the Plexr plus instrument according to manufacturer's recommendations by the same physician. Patients were followed for a mean period of 9 months.

Results: Patients' satisfaction was present in 90% and surgeon satisfaction was 90% at the end of the follow-up period.

Conclusion: Plasma energy utilization for periocular procedures for patients unwilling to choose surgical options. Plasma energy can be an alternative for patients who underwent surgery with unsatisfactory results or with unacceptable scar formation. This novel treatment can be an alternative to various periocular surgical procedures but, lower eyelid blepharoplasty in particular.



A06

Supine test: a new test for detecting lacrimal gland prolapse before upper blepharoplasty

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Background: To introduce a new (Supine) test and assess the values of lateral eyelid bulging for diagnosis of lacrimal gland prolapse before upper blepharoplasty.

Methods: In a prospective case series (2011-2017), lateral eyelid bulging and Supine Test were recorded, preoperatively. Lacrimal gland prolapse was graded as mild (< 4mm), moderate (4-7 mm), and severe (>7mm). A few spots of cautery on lacrimal gland capsule was performed in patients with bilateral mild and suture repositioning in unilateral or bilateral moderate and severe lacrimal gland prolapse. Patients with asymmetric lacrimal gland prolapse was treated based on more severe grade, bilaterally.

Results: Included were 1207 patients. Frequency of positive Supine Test (11.8%, 142/1207) increased from almost 10% in patients under age 41 to 15% in more than 60 years. Their mean age was significantly older and 53.2% showed asymmetric lacrimal gland prolapse. Septum was just opened in patients with positive Supine Test and all had lacrimal gland prolapse of ≥ 3 mm (mean: 5.6 mm, range: 3-14 mm). Mild, moderate and severe lacrimal gland prolapse were observed in 22.5%, 62.6%, and 14.7% of the patients, respectively. Mean follow up time was 22 months (12-60 months). Recurrence was observed in one patient (bilateral) after suture repositioning. Lateral eyelid bulging had a high negative (96.2%) and low positive (30.6%) predictive value as compared to the Supine Test.

Conclusions: Positive Supine Test means lacrimal gland prolapse of ≥ 3 mm (100% positive predictive value). Negative lateral eyelid bulging was highly predictive of no lacrimal gland prolapse.

A07

Complication of injectable hyaluronic acid fillers: 4 clinical cases

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To present four different clinical cases with early and late onset complications after filler injections.

The first case was a 49 years old woman who presented with an inflammatory response after one week following injection with HA

Case 2 was a 35 years old woman who presented with a nodular granuloma, she had a history of HA injection 7 years ago

Case 3 was a 45 years old woman who presented with multiple facial abscesses after few days of injection with HA

Case 4 was a 54 years old woman with Ophthalmic and facial vascular occlusion and complete blindness of her left eye immediately after medical nasal Rhinoplasty



A08

Open-incisional double eyelid plasty with CO₂-laser

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Eyelid shape is one distinctive feature of the Asian eye with an increasing demand for double eyelid plasty. These procedures transfer monolids to double lids with a supratarsal crease. Several surgical procedures are available, but the most robust results are obtained by the 'open incisional procedure'. Here we describe a variation of this procedure with the use of CO₂-laser. This coagulative procedure facilitates per-operative visualization/identification of anatomical structures to ensure optimized results.

Preoperatively, crease height is marked, and a few mm (1-3 mm) of skin are then excised with CO₂-laser. The exposed orbicular muscle tissues are then laser-treated in a defocused mode to tight-up the tissues by retraction. A laser-mediated horizontal incision in the orbicular muscle superior of the upper tarsal plate (approximately 6 mm above the eyelid margin) is made, and the aponeurosis of the levator muscle appears apparent. Laser-generated 'buttonhole' incisions in the aponeurosis serve to excise preaponeurotic fat tissue. Six-to-seven single Silk 6-0 stitches are placed between the aponeurosis and skin to pull the dermis/skin profound. The skin incision in the eyelid is closed by Prolene 6-0 with a continuous running suture technique. Postoperatively, antibiotic ointment is applied daily for two weeks until removal of all stitches. Patients are evaluated after three-to-four-months. The procedure provides reproducible and predictable results.

Oral Poster Presentation - Eyelid Oncology and Miscellaneous Saturday, 14.09.2019, 8:30

PLO01

Intralesional bevacizumab in periorbital lymphangioma

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Objective: Approach in a periorbital recurrence of an orbital lymphangioma; intralesional bevacizumab as a therapeutic option.

Methods: A 37 years old female patient presented with a periorbital recurrence of an orbital and periorbital lymphangioma of the right eye in 2015. Since childhood she had undergone several surgeries (including orbitotomies with tumor debulking, orbital radiation, eyelid reconstruction). Consecutively she developed optic atrophy and enophthalmos. For esthetic improvement she started wearing a shell prosthesis in 2014. In 2015 clinical findings showed the previously known enophthalmos, hyposphagma, corneal vascularisation and the upper eyelid subcutaneous vascularisations and bleeding of the right eye, which had developed recently (fig.1). Visual acuity (VA) was counting fingers. She was treated with intralesional injections of bevacizumab (10mg in 0.4 ml) in the upper eyelid and caruncle (off-label). Injection was repeated eight weeks later.

Results: 8 month after the second injection she presented with nearly complete regression of the eyelid vascularisation and involution of the corneal vascularisation. VA had improved to 1/35. There were no intra- or postoperative complications. Up to 2018 VA and clinical findings were stable without recurrence (fig.2).

Conclusion: Intralesional bevacizumab is a feasible therapeutic option in periorbital lymphangioma. It leads to regression of the vascularisation.



[Fig. 1: Periorbital recurrence 2015; before injection of bevacizumab.]



[Fig 2: No periorbital recurrence in 2018.]

PLO02

The use of subconjunctival bevacizumab in patients in oculoplastic surgery

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Background: The purpose is to evaluate our experience, the effect and safety with use of subconjunctival bevacizumab in patients with primary and secondary pterygium and in patients with symblepharon after chemical ocular burns or radiotherapy.

Methods: In this ongoing study which started in 2008 patients received subconjunctival injection of bevacizumab (in each session 2X 1,25 mg/0,1 ml). Our study included 28 patients with pterygium, 3 patients with symblepharon after chemical ocular burn and 1 patient with symblepharon after radiotherapy. Digital photography was used to evaluate conjunctival vascularisation before and after injection of subconjunctival bevacizumab.

Results: There were 28 patients with pterygium (15 male and 13 female), aged between 32 and 74 years (mean age 55,5), 15 patients with primary and 13 with recurrent pterygium, 3 patients with symblepharon after chemical ocular burn (3 male), aged between 31 and 56 (mean age 46) and 1 patient with symblepharon after radiotherapy aged 64 included in the study. In all patients we noted significant regression of conjunctival vascularisation after 4 weeks. In patients with pterygium subconjunctival bevacizumab was used preoperatively. In patients with symblepharon after chemical injury and radiotherapy injections were applied pre- and postoperatively.

No changes of visual acuity was noted and no systemic or ocular adverse events were observed.

Conclusion: In our experience use of subconjunctival bevacizumab is effective, safe and provides a good regression of conjunctival vascularisation. Further research is needed to explore new possible clinical uses of bevacizumab in oculoplastic surgery.



PLO03

Calcipotriol combined with 5-fluorouracil, topic treatment in periocular premalignant lesions

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Objective: Calcipotriol is epithelium-derived cytokine involved in the inflammatory control and immune defense of the skin barrier. Its efficacy has already been demonstrated in combination with 5Fluorouracil(5FU) ointment in premalignant lesions located in extremities or scalp. We present 2 cases of treatment application in the periocular region to evaluate its efficacy and safety in this area.

Material and methods: Two patients with actinic keratosis (AK) in the periocular region, not susceptible to surgical treatment, were included. Ointment prepared in hospital pharmacy was applied based on calcipotriol 0.005% and 5% FU in equal parts, applying every 12 hours for 4 days. The results were measured after the first application, evaluating the regression and subjective discomfort of the patients.

Results: Two affected cases of KA are presented, which experienced significant improvement after the first treatment cycle despite the extension and thickness of the lesions. It was compared in one of the cases with the application of 5FU in monotherapy in the contralateral eye due to bilateral involvement. Equivalent evolution was observed, with the patient reporting less subjective discomfort in terms of itching and inflammation on the side of the combination therapy and more application facilities for the more comfortable posology.

Conclusion: The combined therapy of calcipotriol and 5fu is an option to be taken into account in cases of premalignant lesions of the periocular area with the advantages of a shorter and simple posology, which could favor the therapeutical adherence.

PLO04

Three-year disease-free outcome in all non-melanomalous skin cancers excised with 1mm margins and same-day reconstruction in a district general hospital

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Purpose: The periocular area is a high-risk area for skin cancer development and deeper spread. Excision with standard Mohs techniques can lead to large surgical defects, compromise adnexal structures such as the canaliculi, as well as breach anatomical barriers to invasion such as the orbital septum. Here we describe the successful use of reduced margin excision and same-day reconstruction using frozen section analysis of all non-melanoma skin cancers in the periocular area.

Methods: We reviewed the electronic records of all patients with non-melanoma skin cancer treated in the oculoplastic service over a 7 year-period from 2009 to 2016 to ensure full three-year follow up. Tumours were excised with a 1mm margin and sent for frozen section margin clearance with two marking sutures. Reconstruction occurred on the same day once margins were determined to be clear. To ensure good theatre utilisation other oculoplastic cases are interspersed on the list whilst histology is awaited. All samples were also subsequently processed routinely in paraffin.

Results: 162 patients had skin cancer excisions, of which 85% were basal cell carcinomas (nodular 39%, infiltrative 6), 10% squamous cell carcinomas and 5% comprised other pathologies, including benign pathology and viral papillomas. There were no recurrences after 3 years of follow-up. Cosmetic results were excellent and patients satisfaction high.

Conclusion: Previous studies have shown long-term recurrence-free outcomes principally for patients with basal cell lesions excised with 3mm margins using en face frozen section margin clearance. This data extends these findings to all non-melanoma skin cancers and shows that smaller margins are equally safe. For the periocular area, frozen section clearance with reduced margins may offer advantages over Mohs micrographic surgery without reduced safety.



PLO05

Reduced dose topical mitomycin-C therapy for eyelid sebaceous carcinoma with pagetoid spread

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Objectives: to report the use of a reduced dose of topical mitomycin-C protocol to treat persistent pagetoid spread of eyelid sebaceous carcinoma

Methods: case report

Results: A 69-year-old Caucasian man with a medial left upper eyelid lesion was diagnosed with sebaceous carcinoma by shave biopsy with positive margins. Conjunctival map biopsies of the left eye were positive for sebaceous carcinoma in the upper palpebral and superior bulbar conjunctiva. Sentinel lymph node biopsies and PET scan were negative for metastases. The patient then underwent tumor resection with Mohs micrographic surgery, which resulted in a 95% eyelid defect and loss of 60% of the bulbar conjunctiva. Margins remained positive on the bulbar conjunctiva. In the setting of persistent pagetoid spread, the reconstructive approach included three rounds of cryotherapy to the conjunctiva intraoperatively and a postoperative course of topical mitomycin-C (MMC). Our protocol consisted of 4 cycles of 1 week of topical 0.02% MMC four times a day and 3 weeks without treatment. Conjunctival map biopsies of the left eye 2 months and 18 months after the 4 cycles remained negative. However, the patient ultimately suffered from severe dry eye, symblepharon, and cicatricial lagophthalmos requiring further forniceal reconstruction and buccal mucus membrane grafts.

Conclusions: Treatment of persistent pagetoid spread of sebaceous carcinoma beyond exenteration remains challenging. Topical mitomycin-C shows promise for tumor regression in small case series, but can cause significant morbidity with ocular surface irritation. In order to make the side effects more tolerable, we attempted a protocol that had a reduced dose of topical 0.02% MMC with only 1 week of treatment and 3 weeks off per cycle. This reduced dose MMC protocol still proved to be effective with negative repeat map biopsies at 2 months and 18 months follow up.

PLO07

An algorithm for Botulinum toxin A injection for upper eyelid retraction associated with thyroid eye disease: long term results

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Purpose: To evaluate the efficacy and complications of transconjunctival Botulinum toxin A injections performed according to an algorithm, for the management of upper eyelid retraction associated with thyroid eye disease.

Methods: Seventy one eyes of 60 patients at the inactive stage, with upper eyelid retraction due to TED, who had undergone Botulinum toxin A injections were reviewed retrospectively. Botulinum toxin A was injected transconjunctivally, just above the superior tarsal border of the upper eyelid in doses between 2-15 units according to an algorithm, depending on the amount of retraction. Margin-reflex distances were measured according to the photographs taken under standard conditions before and after the injections at the tenth day, the second and the fourth months. Additional Botulinum toxin A injections were performed in patients who had an undercorrection on the tenth day. Complications, such as diplopia and ptosis were recorded.

Results: The study included 38 females, 22 males with a mean age of 43.3±13.1. A normal margin-reflex distances (3-4 mm), were reached in the 58 of 71 eyes (81.7%). Additional injections were needed in 8 eyes (11.2%) for residual retraction on the tenth day. Ptosis was the major complication in 4 eyes for 1-3 weeks after injection. Upper eyelid retraction recurred after 5.1±0.9 months in all patients.

Conclusion: Transconjunctival Botulinum toxin A injection is an effective, safe, transient and repeatable method with few complications, in the treatment of upper eyelid retraction due to thyroid eye disease. The algorithm used in this study resulted in high success rates in the long term follow-up.



PLO08

Morphologic changes of meibomian glands in anophthalmic patients wearing cryolite glass prosthetic eyes

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Purpose: To evaluate morphologic changes of meibomian glands (MGs) in anophthalmic sockets wearing cryolite glass prosthetic eyes using in-vivo laser scanning confocal microscopy (LSCM).

Patients and methods: 15 unilateral anophthalmic patients wearing cryolite glass prosthetic eyes were enrolled. All patients with clinical blepharitis or other significant lid abnormalities were excluded. In-vivo LSCM of the MGs in the lower eyelids both at the anophthalmic side as well as the healthy fellow eye was performed to quantify acinar unit density, acinar unit diameter, acinar unit area, meibum secretion reflectivity, inhomogeneous appearance of the glandular interstice, and inhomogeneous appearance of the acinar walls.

Results: The lower eyelids of the anophthalmic sockets revealed a significant reduction of the acinar unit density ($p=0.003$). However, there were no significant differences regarding the inhomogeneous appearance of glandular interstice and of acinar walls, acinar unit diameter, acinar unit area, and meibum secretion reflectivity of the MGs at the anophthalmic side compared to the healthy fellow lower eyelid ($p \geq 0.05$, respectively).

Conclusions: Eyelids of anophthalmic sockets without clinical signs of blepharitis or lid abnormalities demonstrate a reduced density of the MG acinar units. This might cause meibomian gland dysfunction suggesting valuable benefit of early treatment in these anophthalmic patients, even in the clinical absence of any blepharitis signs.

PLO09

Evaluation of cosmetic and functional results of lower eyelid large, full-thickness defects reconstruction with Hughes flap and free skin graft

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Purpose: Analysis of cosmetic and functional results of large full-thickness lower eyelid defects reconstruction with the Hughes flap and free skin graft in the group of patients treated for lower eyelid carcinoma at the Ophthalmology Department of the Military Institute of Medicine in Warsaw from January 2015 to April 2019.

Material and methods: The study group consisted of 21 patients: 11 women (52.4%) and 10 men (47.6%), aged from 54 to 92 years. The study included patients with post-surgical, large - greater than 50% of the length of lower eyelid defects. Patients underwent surgical reconstructions using the Hughes flap and full thickness skin graft. The preoperative assessment protocol included a detailed examination of the accessory structures of the eye and a full eye examination. All patients underwent follow-up examinations on the 7th day, 3 weeks, 1, 3, 6 and 12 months after the procedure, and then during the following years at 6-month intervals. During the control tests, the effectiveness of oncological treatment, functional and aesthetic result of eyelid reconstruction and complications were evaluated. The observation period ranged from 6 months to 4 years.

Results: All patients underwent uncomplicated operations and radical removal of neoplastic lesions. According to the adopted criteria, in 15 cases a very good result was obtained and good in the next 6. Functional results were rated as very good in 19 patients and in the remaining 2 as good.

Conclusions: The results obtained indicate that the modified Hughes procedure is a useful technique for repairing large, full-thickness defects of the lower eyelid. The method allows to obtain the proper function of the eyelid and a satisfying cosmetic result.



Oral Poster Presentation - Eyelid Ptosis Saturday, 14.09.2019, 8:30

PLP01

A second chance for a patient with severe right-sided ptosis!

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Introduction: A female patient presented with severe right-sided ptosis in 2007 in her homeland. MRI found an arachnoidal cyst in the left side of the pons angle in 2009. The MRI studie and extensive work-up could not find the etiology of the right-sided pupil-sparing oculomotor nerve palsy. The visual acuity was one meter finger count in the right eye due to severe amblyopia. The levator function was 5 mm in 2009. She was operated with frontalis suspension surgery with Silicon thread in 2013. Back then, she had 1 mm lagophthalmos postoperatively. The result was unsatisfactory, but due to poor levator function and lagophthalmos no further operation could be done in 2013.

Methods: She came to our clinic for cosmetic upper and lower blepharoplasty and asked if I can help her for right-sided ptosis in May 2017. Clinical examination showed MRD1 as -2 mm and 12 mm levator function and no lagophthalmos. The patient had motility limitation, but denied if had double vision. The ptosis was unresponsive to 10% Phenylephrine drops. Several operations including, upper and lower blepharoplasty, fat excision, removal of silicon suspension sling, and levator aponeurectomy, have been done for the patient.

Results: Postoperatively the MRD1 was 3 mm with no lagophthalmos. The patient is extremely satisfied. 18 months of follow-up and several controls showed stable upper lid position and no development of lagophthalmos. Follow up MRI studies 2018 did not show any change compared to original studies from 2009.

Conclusion: Although it could be an exceptional case, but some other patients can be re-examined to see if they can get better eyelid position with other surgical methods.

PLP04

Is it better to evaluate gold weight implantation surgery results in 2D?

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Introduction and purpose: Upper eyelid gold weight implantation is a frequently preferred surgery in the treatment of lagophthalmia. The amount of lagophthalmia (AL), margin reflex distance 1 and 2 (MRD1&MRD2), palpebral fissure (PF) height are the linear measurements used in the follow-up. With the aid of digital analysis of patient photographs AL & PF is measured not only linearly but also two dimensionally as range of interest. The aim of this study is to evaluate if there is a difference between one dimensional (D) & 2D measurments in clinical setting.

Methods: The demographic data, the weight of the implanted gold weight and the duration of follow-up were noted. Using free software (Image J, NIH image software) the margin reflex distance 1 and 2 (MRD1&MRD2), palpebral fissure height (PFH) and the amount of lagophthalmia (AL) are measured linearly, AL and palpebral fissur areas (PFA) are measured 2D in pre-and postoperative visits. Pre- and postoperative values were compared with Wilcoxon method. Correlation between parameters was evaluated by Pearson correlation analysis.

Results: The mean age of 10 patients (7 male and 3 female) 39.6 ± 16.4 years (range, 14-60 years). The mean follow-up period was 53 days (range 8 to 150 days). The mean implant weight was 1.46 grams (0.8-1.6 gr). Palpebral fissure height, MRD1 and PFA were significantly lower postoperatively ($p < 0.05$). There were strong association between PFH and PFA pre- and postoperatively. ($r:0.88$, $r:0.86$ respectively, $p < 0.01$) MRD1 was strongly associated with PFA preoperatively ($r:0.97$, $p < 0.01$) but not postoperatively ($r:0.62$, $p > 0.05$)

Discussion and Conclusion: 2D measurements are strongly correlated with 1D measurements, so 1D measurments are quite enough for evaluation.



PLP05

Which procedure should we prefer in mild-moderate ptosis: putterman or levator resection procedure?

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Aim: We aimed to study the effectiveness of Müller muscle-conjunctiva resection procedure in mild-moderate ptosis

Method: Surgically treated 55 patients with mild-moderate ptosis (32 female and 23 male) were included in this study. These patients were grouped as those who underwent putterman procedure as group 1 and those who underwent levator resection procedure as group 2. Marginal reflex distance MRD1, vertical fissure height VFH, lid crease LC and upper lid contour were evaluated in both groups.

Results: 55 patient 58,2% female. Group 1 included 28 and group 2 included 27 patients. Age average was 41.7 ± 18.3 year (13-73) and had no statistically significant difference between groups. There was no irregularity in upper lid contour in both groups. LC values were similar preoperatively and postoperatively with no statistically significance. Preoperative average measurement of MRD1 in group 1 was 2.3 ± 0.6 mm while 1.7 ± 0.6 mm in group 2 and the results were statistically significant between groups ($p=0.042$). Postoperative MRD1 average was 4.2 ± 0.7 mm in group 1 and 4.3 ± 0.9 mm in group 2 and there was no statistically significant difference between groups. The preoperative value of VFH in group 1 was 7.9 ± 1.5 mm and 6.9 ± 1.3 mm in group 2. The postoperative value of VFH in group 1 was 9.9 ± 1.3 mm and 9.4 ± 1.3 mm in group 2 the difference postoperatively was statistically not significant. The difference between the right and left VFH postoperatively was statistically not significant in both groups ($P=0.42$). The difference between the right and left MRD1 postoperatively was statistically not significant ($p=0.59$).

Conclusion: Putterman procedure is as effective as levator resection procedure and could be performed in mild-moderate ptosis getting symmetric results in both lids with shorter healing duration.

Keywords: ptosis, putterman, levator.

PLP07

Posterior approach ptosis repair, achieving the definitive technique

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Background: Approaching the eyelid structures using the conjunctival surface is a well-established method for ptosis correction. We describe a modified technique of posterior approach aponeurosis advancement avoiding shortening of conjunctiva and using a modifying suture.

Methods: Retrospective review of single surgeon patients' done over a 2-year period. Conjunctival incision, partial Müller's resection, aponeurosis advancement to the superior border of tarsal plate using a double-ended suture that is used to place several running stitches, medial and lateral ends of the suture are retrieved through the skin at the level of the crease and secured with a knot. Surgery finishes without the need for assessing the lid height nor contour. Suture is removed 2 weeks after surgery.

Results: 78 eyelids of 57 patients (36 women - 21 men) were included. 21 patients had bilateral surgery and 36 were unilateral. The mean age was 54 years (range 26 - 77). 78 cases were done under local and sedation and one was done under general anesthesia. Minimum follow-up was 6 months. 49 patients had primary involutional ptosis, 4 had Horner's associated ptosis, and 4 were reoperations of previously failed anterior approach ptosis surgery. 50 patients (87,7%) reported being satisfied with the lid height, contour and symmetry. 4 patients (7%) required re-operations to achieve better results due to hypocorrection.

Conclusions: We present a modified posterior approach ptosis repair technique. This technique arised from the combination of several previously described procedures, trying to get the best of each one. In this small series, this technique seems to be safe and achieve a good rate of success. The surgery is quick and easy and avoids the need for assessing the lid height and contour during the procedure. More numbers are needed to determine the role that this procedure might have within our catalog of ptosis surgery techniques.



PLP08

Congenital ptosis repair: a retrospective statistic study

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The treatment of congenital ptosis with poor levator function may include frontalis suspension or maximal levator resection, but the modality of choice remain controversial amongst different oculoplastics centers. We present a single-institution retrospective study of congenital ptosis surgeries in a reference oculoplastics center in Belo Horizonte, Brasil.

We started collecting data of all patients submitted to congenital ptosis repair in our service between May 2017 and May 2019. A total of 16 patients and 20 eyelids were found and classified by name, gender, side, age of surgery, levator function, surgical technique, MRD1 before and 3 months after surgery.

Inclusion criteria were unilateral or bilateral congenital ptosis and described intraoperative findings of levator dehiscence with frank fatty infiltration. Patients were further divided into two groups depending on the severity of levator function as follows: those less than or equal to 4mm and those greater than or 4mm excursion. The surgical outcomes were categorised as satisfactory or poor based on the postoperative MRD1 increase.

A total of 16 eyelids (80%) underwent maximal levator resection and 4 eyelids (20%) underwent frontal suspension. The mean age at the time of surgery was $10,5 \pm 3,9$ years (range, 10months to 60years). The preoperative levator function was 3.5 ± 1.6 mm (range, 1 to 16mm). The preoperative MRD1 was 0.0 ± 1.0 mm and postoperative MRD1 was 3.0 ± 0.6 (range, 0,5 to 4mm) .

Surgical outcomes were graded as good in 13 patients (65%) and poor in 7 patients (35%) at last follow-up. Postoperative complications were documented as overcorrection in 1 patient (5%), granuloma formation in 1 patient (5%), lacrimal gland cyst formation in 1 patient (5%).

Maximal levator resection is our most elected procedure for congenital ptosis repair even with poor levator function, which provides improved cosmesis, a more natural lid contour, avoids brow scars and results in fewer complications than frontalis suspension.

PLP09

Posterior approach for aponeurotic repair: a powerful technique for aponeurotic ptosis correction. 15 year experience

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The correction of the aponeurotic ptosis is renowned by the cutaneous approach. Also very widespread is the conjunctivomullerectomy.

Nowadays we know there is a levator complex composed of the muller muscle, distal fibers of the levator and aponeurosis. Based on this knowledge, it is more than reasonable to understand that this lift system is more related to posterior lamella and therefore more easily to be found by the transconjunctival approach. Since 2006 we have used the technical principle of reinserting the aponeurosis to the tarsal plate, in the union of its middle third with the upper one, simply opening the conjunctiva to the level of the upper border of the tarsus (± 12 mm), cleaning the anterior surface of tarsus and then identifying the aponeurosis deinserted or attenuated, in conjunction to the muller. A Vicryl 6-0* needle is passed passing under it the and then it is into the tarsus at its midpoint slightly medial to the center of the pupil. This promotes the advancement of the elevator complex and in most cases only a single suture is needed to correct ptosis.



The technique is always the same and depends neither on the degree of ptosis nor on the response to the phenylephrine test, provided that the mechanism of ptosis is aponeurotic. No tissue is resected, no suture touches the ocular surface and skin crease is provided by the aponeurosis repositioning in itself. We have 642 consecutive cases operated to date, with a high degree of satisfaction in the results regarding eyelid height, contour, speed of execution and recovery of the patient. The main complication is suture dehiscence, seen in 6% of cases. Temporary hypercorrections may occur but they correct spontaneously in most cases.

PLM05

Double eyelid tape technique for improved visual field testing

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Introduction: Perimetry can be a useful tool in evaluating patients with visually significant ptosis. The conventional method of taping upper eyelids for visual field testing involves applying a vertical strip of tape at the center of the upper eyelid and anchoring it above the eyebrow. We hypothesized that commercially available cosmetic eyelid tape would decrease patient discomfort, facilitate ease of application, and improve visual field outcomes. A preliminary exploration was done to show proof of concept for the double eyelid tape technique (DETT).

Methods: Commercially available cosmetic semi-lunar double-sided tape was obtained along with application probe. Tape was applied to the upper eyelid. Probe was placed on skin at outer corners of tape and gently pushed superiorly until lid crease formed.

Case study: A 92-year-old man with excellent vision was found to have bilateral upper eyelid ptosis due to levator aponeurosis dehiscence. His margin-reflex distance 1 (MRD1) was < 1mm OU. Initial Humphrey 24-2 visual field of the left eye showed a significant superior visual field defect. The patient's eyes were taped using the DETT described above, improving the MRD1 by 2mm. The 24-2 visual field was repeated in this taped fashion and found to be full. The patient was able to fully close his eyelid with the tape intact and reported subjective comfort throughout the repeat exam.

Discussion: The DETT was utilized to successfully eliminate an upper lid defect in one patient with levator aponeurotic dehiscence. In this process, the application was seamless and visual field outcomes reflected a visually significant ptosis with demonstration of a superior lid artifact that resolved with taping. Further data collection via a prospective randomized comparative study could help elucidate the effectiveness and practicality of the DETT for widespread perimetry testing.

Oral Poster Presentation - Eyelid Reconstruction and Miscellaneous

Saturday, 14.09.2019, 8:30

PLR01

Operative challenges in large full-thickness upper eyelid reconstruction: 3 clinical cases

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Background: Large upper eyelid defects most frequently result from tumour excision or trauma, seldom from congenital coloboma. Lid reconstructions in these cases can be challenging for oculoplastic surgeons trying to restore the anatomy, the function and aesthetic aspects of the eyelid. After surgery the eyelid should be composed of an anterior and posterior lamella, should have a stable eyelid margin and good motility to ensure protection of the underlying cornea.



Methods: We report here three patients who required an upper eyelid reconstruction after primary tumour excision (Merkel cell carcinoma (n=2), squamous cell carcinoma (n=1)). A switch flap plastic was performed in two cases where, a total, full-thickness upper eyelid defect resulted after the tumour excision. The third patient presented next to the total, full-thickness upper eyelid defect also a 60% defect from the lower eyelid. The upper eyelid reconstruction was performed in this case with a skin transposition flap from the forehead combined with a hard palate graft to replace the posterior lamella. The lower eyelid was reconstructed with a periosteal flap and transposition flap of the ipsilateral cheek.

Results: Postoperatively both patients with the switch flap reconstruction showed no lagophthalmos and good upper eyelid motility thanks to the preserved levator muscle function. In the third case a lagophthalmos due to scar retraction and poor levator function (3mm) was registered with exposition of the lower half of the cornea. In order to prevent further ocular surface disruptions a free full-thickness skin graft from the preauricular area was performed and allowed a lagophthalmos reduction to 3 mm.

Discussion: Different operative techniques for large full-thickness upper eyelid reconstruction have been described in literature. The type of operative technique is case-dependent and should aim to restore eyelid function and aesthetical outcome.

PLR02

Hard palate graft for the correction of lower eyelid retraction and entropion after repair of orbital floor fracture

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Objectives: To review the results of hard palate grafting to lower eyelid in order to alleviate entropion and/or eyelid retraction complicating repair of orbital floor fractures.

Methods: Three men (20-45 years of age) and one woman (55 years of age) operated in the year 2018 were included. 3 patients had their orbital floor fracture repaired by a maxillofacial surgeon and 1 by an ear-nose-throat surgeon. A transconjunctival approach to the orbital floor had been used in 2 patients, a coronal incision in 1 and an infraciliary incision in 1 patient. 2 patients had entropion, 1 patients had eyelid retraction and 1 patient had both entropion and eyelid retraction. 2 patients had lost the eye as a result of the trauma.

The surgical procedure included placing a traction suture in the lower eyelid during surgery and until the following morning, an incision through the conjunctiva and the lower eyelid retractors along the inferior border of the tarsal plate, release of scar tissue, and suturing the hard palate graft into the resulting defect along the inferior border of the tarsal plate. The width of the graft was 4-6 mm. Patient records and pre- and post operative photos were reviewed.

Results: In 3/3 patients the entropion was corrected and in 2/2 patients the eyelid retraction was corrected sufficiently by the surgery.

Conclusions: A hard palate graft transplant to the lower eyelid is a feasible technique for the correction of entropion and eyelid retraction after orbital floor repair.

PLR03

Tarsoconjunctival pillar flap for exposure-related keratopathy: surgical technique and clinical outcomes

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Objectives: To describe a minimally invasive technique and its clinical outcomes with the use of a tarsoconjunctival pillar flap to restore and preserve corneal integrity in patients with exposure-related keratopathy of varied etiology.

Methods: All patients treated with tarsoconjunctival pillar flap in the Department of Ophthalmology of Hospital de l'Esperança - Parc de Salut Mar, from 2015 to 2019, were included in this study. Observational, retrospective review of preoperative and postoperative examination findings was performed.



Tarsoconjunctival pillar flap is accomplished by creating a 5mm x 5mm ipsilateral upper-eyelid tarsoconjunctival flap pedicle and by forming a pocket in the inferior eyelid grey line, matching with the size and location of the superior eyelid strip. The tarsal border of the flap is attached to the pocket with double-armed 5/0 Vycril sutures.

The location of the flap is at the temporal limbus in order not to occlude the pupillary axis. The pedicle allows maintenance of a narrowed interpallebral fissure and the conjunctival epithelium provides coverage and trophic factors to restore the ocular surface.

This procedure is indicated as a temporal solution prior to conducting more definitive treatments.

Results: This surgical technique was undergone on 7 patients with symptomatic exposure-related keratopathy from different etiologies. Complete corneal restoration was achieved in all the patients treated within a mean of a month. There were no complications in any of the procedures performed.

Conclusions: Tarsoconjunctival pillar flap is a safe and effective first step treatment for patients with exposure-related keratopathy.

Compared to the classic tarsorrhaphy procedure, the tarsoconjunctival pillar flap is easy to reverse without incurring lid-margin damage and does not occlude the pupillary axis.

PLR04

Eyelid reconstruction using scleral implant, amniotic membrane and skin graft after resection of basocellular carcinoma

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Objective: To show aesthetic results after eyelid reconstruction in the resolution of basocellular carcinoma

Clinical case: Female, 87-year-old who came to our service showing a 1 cm tumour on the free edge of the left eye with telangiectasias, involving a lacrimal punctum. Given the suspicion of basal cell carcinoma, it was decided to include it in the surgical waiting list to perform a biopsy of the lesion and then an exeresis of the lesion. The simple resection of the lesion with wide margins was performed, which is referred to the pathology and the reconstruction of the eyelid is performed by placing a scleral graft, amniotic membrane as covering and skin graft that is sutured with vicryl. The results of pathological anatomy confirmed the diagnosis of basocellular carcinoma and reported involvement of the resected lateral margin. In the following revisions is observed how the scleral is being covered until it is almost completely conjunctivalized and show good aesthetic state of the reconstruction. No other complications or postsurgical sequelae were observed in order to have a second intervention.

Discussion: The therapeutic decision and the selection of the surgical technique of excision of the chosen lesion were correct, however, the margins were not wide enough. It would have been convenient a second intervention to make a wider resection and thus make sure to leave margins clean.

Conclusions: Nowadays, surgical removal is considered the most effective therapy for basal cell carcinomas due to its high cure rates. In this case, the sclera graft and the amniotic membrane have been shown to be effective as structural support for palpebral reconstruction through margins resolution of this suspicious lesion of malignancy.

PLR05

Combined method of surgical correction of neuroparalytic lagophthalmos associated with asymmetry of the face

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Using well-known clinical experience of cosmetic face correction using non-absorbable surgical sutures, we found it possible to use them to reconstruct the asymmetry of the face associated with lagophthalmos to increase the therapeutic and aesthetic efficiency.



Material and methods: 17 patients with NL: 9 women, 8 men, aged from 35 to 68 years.

Severity of NL ranged from 4 to 10 mm. In all patients, retraction of upper eyelid is 2-5 mm. In 9 people NL was combined with the lower eyelid ptosis, and in 8 people - with its inversion.

In order to restore the normal position of the eyelids, we used external tarsorrhaphy and internal canthorrhaphy. Simultaneous surgical correction of the eyebrow, nasolabial folds and the angle of the mouth was performed in a looped way using surgical 4-0 polypropylene sutures.

Results: On days 8-12, all 17 patients had moderate postoperative tissue edema of the corrective facial areas, uncomplicated healing of skin incisions.

After 1 month, the retraction of the upper eyelid disappeared in all patients and its edge was located on the upper border of the pupil. The lower eyelid is firmly attached to the eye surface. At the same time, in 6 patients lagophthalmos completely disappeared, and in 11 patients severity of residual lagophthalmos varied from 1 to 3 mm. Mouth angle in 8 patients was on the same level with the healthy side, but in 9 patients it remained omitted from 1-2 mm.

With follow-up periods of 6 to 12 months, achieved cosmetic result of surgical correction of lagophthalmos and face in all patients was stable.

Conclusion: Expediency of simultaneous surgical removal of NL in combination with implantation of 4-0 polypropylene filaments was confirmed, which allows restoring normal position of face cheek-orbital area with paresis of facial nerve. Cosmetic satisfaction was achieved in all patients.

PLR06

The characteristics of cilia direction change after surgical correction for lower eyelid epiblepharon

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Purpose: Although relatively high surgical success rates have been reported, complications such as undercorrection, ectropion due to overcorrection, and retraction of the lower eyelid are still a major concern in the surgical correction of epiblepharon. The purpose of this study is to evaluate the amount of correction by analyzing the direction of the lower eyelid eyelash after epiblepharon correction surgery.

Methods: We prospectively analyzed 35 consecutive patients who underwent surgery under general anesthesia at the Korea University Hospital from January to December 2018. The severity of the epiblepharon (Khwarg's classification, 1 ~ 4 points) was scored using preoperative photographs of the frontal face. The side face images were taken preoperatively, immediately after surgery, postoperative 1 week and postoperative 1 month. The eyelash angle was measured using the Image J program.

Results: Thirty patients (15 males and 15 females) were included in this study. The mean age was 6.0 ± 2.2 years and the mean epiglottis was 2.4 ± 0.9 . The angle of lower eyelid eyelash was 64.1 ± 14.6 degrees ($P < 0.001$) immediately after surgery, and 5.9 ± 12.5 degrees, 9.3 ± 14.9 degrees, and 9.1 ± 18.2 degrees at postoperative 1 week, 1 month, and 3 months, respectively ($P = 0.076$, $P < 0.001$, $P < 0.004$, respectively). At 3 months postoperatively, the amount of eyelash angle change was positively correlated with the change in eyelash angle immediately after surgery ($r = 0.482$, $P = 0.007$). And the more severe the epiblepharon, the more inward tendency was observed. Age and gender were not significantly correlated with eyelash angle change.

Conclusion: The change of lower eyelid eyelashes angle showed an average of 9 degrees after epiblepharon correction surgery. If the above result is taken into consideration, it will be helpful to determine the appropriate amount to avoid overcorrection.



PLR07

Reconstruction of medial canthal defects with transnasal or transglabellar medial semicircular flap

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Purpose: To report the results of reconstruction of medial canthal defects with medial (transnasal or transglabellar) semicircular flap technique.

Methods: Charts of 37 patients who underwent medial canthal reconstruction with the semicircular flap were reviewed. After tumor excision with a safety margin, a semicircular skin flap formed along the nasal bridge or glabella was advanced to the canthal defect; if necessary, this flap was combined with other reconstructive methods.

Results: Thirty-five patients had basal cell carcinoma and 2 patients had squamous cell carcinoma (19 male, 18 female; age range: 41-87 years). The mean tumor diameter was 9.1 mm (range: 3-21 mm). Defect epicenters were in the midcanthal area in 21 patients (57%), in the infra- or supracanthal areas in 16 (43%). After tumor excision, 21 patients had only canthal defect and 16 had an associated upper and/or lower eyelid defect. To cover the defect, the semicircular flap was used with other flaps in 19 patients (51%). The surgical defect could be primarily closed in 36 patients (97%). Flap necrosis or infection did not occur. During follow-up (range: 1-91 months; median, 19 months), 8 patients (22%) developed a total of 11 complications. Three patients (8%) required secondary intervention for complications due to concomitant eyelid reconstruction (lagophthalmos, ptosis and lower lid retraction).

Conclusions: Transnasal or transglabellar medial semicircular flap may be a good alternative for medial canthal reconstruction. For large canthus defects and for complex canthus-eyelid defects, semicircular flap can be combined with other periocular flaps. In the latter case, postoperative complications requiring secondary surgery may develop.

PLR08

Horner syndrome with hypolacrimation following thoracic sympathectomy for hyperhidrosis

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Background: Hyperhidrosis of the palms, axillae, craniofacial region or a combination of these can be a cause of social distress. Although various medical treatments exist, such as topical agents, anticholinergic medications, and botulinum toxin injections, many consider surgical treatment through thoracic sympathectomy one of the treatments of choice particularly for palmar hyperhidrosis. Horner syndrome has been described as a rare complication of thoracic sympathectomy, although this complication has become increasingly rare with refinement of surgical techniques over time. We report the first case of Horner's syndrome in association with hypolacrimation following transthoracic sympathectomy.

Methods: A 35-year-old female presented with complaints of dryness of the right eye and drooping of the right upper lid that began immediately following bilateral thoracic sympathectomy at the T3 level for hyperhidrosis. On exam, the patient was found to have right upper lid ptosis and miosis OD. She denied anhidrosis of the right side of the face. Schirmer testing showed hypolacrimation OD but a normal corneal exam. Pupils measured with 1mm difference in light and dark conditions. The palpebral fissure was 8mm OD and 10 mm OS, levator function was symmetric at 14mm OU, and MRD1 was +2 mm OD and +4 mm OS with compensatory right brow elevation.

Results: The patient underwent a right upper lid ptosis repair via conjunctival Mullerectomy with resolution of ptosis, and dry eye symptoms were controlled with artificial tears.

Conclusions: Horner syndrome following thoracoscopic sympathectomy for hyperhidrosis is a rare complication. However, it has not been previously reported in association with dry eye symptoms and hypolacrimation as measured by Schirmer testing. This case demonstrates a new potential adverse reaction that should be discussed with patients undergoing thoracoscopic sympathectomy and underscores the important role of sympathetic nervous system in mediating lacrimation.



PLR09

Results of treatment and follow-up in malignant eyelid tumors

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Objectives: To evaluate the clinical features, reconstructive surgery options, and survival in patients with malignant eyelid tumors

Methods: We retrospectively reviewed 132 patients with malignant eyelid tumors treated between 1994-2018. The eyelid tumor was excised with 3-4 mm intact tissue around the lesion. Frozen section control was used in many patients. The results were evaluated according to tumor type, localization, reconstruction methods, and development of metastasis/death.

Results: The mean age was 62 (range: 22-89) years and the mean tumor base diameter was 11x10 mm. The tumor localizations were: lower eyelid in 55 (41.7%) patients, medial cantus in 22 (6.7%), upper eyelid in 21 (15.9%), lateral cantus in 3 (2.3%), multiple quadrants in 7 (5.3%), and orbit in 24 (18.2%). Histopathological examination revealed basal cell carcinoma in 96 (72.8%) patients, squamous cell carcinoma in 13 (9.8%), basosquamous cell carcinoma in 12 (9.1%), sebaceous carcinoma in 10 (7.6%), and malignant melanoma in 1 (0.8%). Tenzel semicircular flap (35 patients, 26.5%) skin graft (12 patients, 9.1%), and Hughes tarsoconjunctival flap (9 patients, 6.8%) were the 3 most common reconstruction techniques employed after excision of malignant eyelid tumors. The mean follow-up period was 69.6 (range: 1-192) months after surgical treatment. Fourteen patients with tumor positive margins detected at histopathological examination were treated with external radiotherapy. Recurrence was observed in 12 patients: 8 patients (6.1%) were treated by further eyelid reconstruction surgery and 4 patients with massive tumor involvement (3.0%) by exenteration. Metastasis developed in 2 patients (1.5%) with basosquamous carcinoma and sebaceous carcinoma and both patients expired.

Conclusions: Basal cell carcinoma was the most frequent malignant eyelid tumor followed by squamous and basosquamous cell carcinoma in this series. Tenzel semicircular flap was the most frequent surgical technique used in reconstruction. Globe preservation was possible in about 80% of cases and risk of metastasis was around 2%.

Oral Poster Presentation – Orbit II

Saturday, 14.09.2019, 8:30

PO10

Cryptophthalmos: clinical features and management

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Objective: Cryptophthalmos is a rare congenital anomaly characterized by absence of eyelids and palpebral fissure. We present its clinical features, surgical management and outcome.

Methods: We reviewed clinical records of patients with cryptophthalmos. We noted age at presentation, sex, cryptophthalmos subtypes, associated systemic manifestations and surgical management.

Results: The study included eight eyes of seven patients, three males and four females. At first presentation, the mean age was 5 years (ranging from 2 weeks to 17). Cryptophthalmos was complete in one case, incomplete in three cases and abortive in three cases (bilateral in one abortive case). In six cases, cryptophthalmos was associated with Fraser syndrome. Most frequent systemic features were renal agenesis (four cases), cutaneous syndactyly (four cases), genital anomalies (three cases) and malformations of the larynx (three cases). Surgical management included orbital reconstruction with temporal muscle flap in complete cryptophthalmos. In one patient with abortive bilateral cryptophthalmos,



dissection of corneal adhesions and reconstruction of the fornices have allowed a vision of 1/20 in both eyes. In the five patients, multiples procedures have been used including reconstructing conjunctival fornices with buccal muscosa graft and upper lid coloboma with flaps. Acceptable cosmetic outcome were achieved in four of the seven patients during the follow-up.

Conclusion: We present a study including the three subtypes of cryptophthalmos. Reconstruction of eyelids and conjunctival fornices in cryptophthalmos remains a challenge, for the oculoplastic surgeon and includes often several steps. Acceptable cosmetic outcome can be achieved in selected cases.

PO11

Modified dermis-fat graft technique for pediatric patients

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Background: Dermis-fat graft is known as effective method of primary supporting-motional stump formation for anophthalmic syndrome prevention after enucleation. But in pediatric patients getting a sufficiently large and spherical graft could be difficult.

Methods: The modified dermis-fat graft technique taking into account the features of pediatric patients has been elaborated. The modification consisted in modeling of the dermis-fat autograft taken from gluteal region by additional sutures, applying - one circular at the equatorial zone, and two horizontal mattress sutures put crosswise at border of the dermal area.

Results: The modeling transforms a rather flat autograft (due to the not always sufficient fat layer in younger children) into a more spherical. Additionally more convex anterior surface formation improves the congruence of the implant with cosmetic prosthesis, increasing it mobility. The enucleation with primary dermis-fat graft implantation using the elaborated technique was performed in 25 children and teen-agers aged 4-16 years. Eye subatrophy as outcome of trauma or chronic uveitis (14) and congenital microftalmos (11) where the indications to enucleation. The observation term amounted from 6 months to 4 years. Extrusion was not observed in any cases, even in tissue deficiency, caused by severe subatrophy or microphthalmos.

Conclusions: The use of dermis-fat autograft in pediatric patients gives the possibility to exclude the rejection reaction and implant extrusion, provides convenience and reliability of extraocular muscles fixation, opportunity of adequate and stable replacement of lost volume in the orbit cavity. The proposed graft modeling allows to form it more preferable spherical shape, suitable for subsequent prosthetics.

PO12

Dermofat graft as a primary orbital implant in evisceration surgeries

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Introduction: Evisceration is an ophthalmic surgery that removes the internal ocular contents and in general, followed by the placement of an orbital implant to replace the lost ocular volume. With the introduction of sclerotomy, the size of the implant is no longer a limitation. Patients enjoy relatively good motility with evisceration techniques. Modern evisceration techniques with sclerotomies allow the placement of larger implants with better results. Currently, with the difficulty of obtaining lower cost orbital implants that are released by Medical Surveillance, the trend in ocular plastic surgery services in Latin America countries is the use of the dermogordurous graft.

Objectives: The objective of this study is to describe the technique of a modified evisceration using the dermogordurous graft as the primary orbital implant.



Material and methods: The study was performed in 23 eviscerated eyes at the University of Mato Grosso, Caceres - MT, Brazil in 2018.

Conclusions: Most studies describe the use of the dermofat graft as a way of secondarily reconstructing the anophthalmic cavity. The reported surgical technique represents a modification of the traditional procedure using an autologous dermofat graft implant after an evisceration. This is a practical, effective and safe method, with low index of complications, being a surgical alternative to return the lost ocular volume lost after the evisceration technique.

PO13

Orbital and adnexal lymphoma. A UK tertiary referral centre experience

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Aim: To present clinical features, histology and long-term prognosis of all patients with biopsy-proven orbital and periocular lymphoma presenting to a tertiary referral centre in the UK.

Methods: A retrospective chart review was carried out for all patients who had histological diagnosis of orbital and adnexal lymphoma from 2005 to 2018. All the biopsies were performed at a single UK tertiary referral centre. The notes of 56 patients were reviewed. The main outcomes identified were clinical presentation, histology, rate of orbital involvement from primary disease and relative time interval, treatment and prognosis.

Results: The median age was 66.7 years, and 57.1% of patients were female. Mean follow-up was 5.8 years. The most common clinical presentation included ptosis (12.5%), lid oedema or fullness (12.5%), diplopia (10.7%), and proptosis (5.4%). Orbital involvement was extraconal in 95 % of the cases, and bony erosion was found in only in 3.6%. 17.9% of patients had primary lymphoma elsewhere and the mean interval prior to the orbital presentation was 5 years. In 30% of patients the orbital histotype was different from the primary site. Extranodal Marginal Zone Lymphoma (EMZL) turned out to be the most common histotype (34.1%). EMZL featured the lowest Local Recurrence Rate (LRR) (0.41%), as opposite to Diffuse Large B cell Lymphoma (DLBCL) which featured the highest LLR at 7.3%.

Conclusion: This is one of the largest single-centre series from the UK where histology of orbital and adnexal lymphoma is reported and correlated with LRR. The most common and least aggressive histotype turned out to be EMZL. Change of histotype between primary site and orbital involvement is not a rare event. Biopsy remains key in the diagnostic work-up.

PO15

Frontal and frontethmoidal sinus mucocoeles: a 23 year experience

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Mucocoeles are cystic, slow-growing lesions that contain either mucous or mucopurulent secretion. Usually unilateral, may affect any paranasal sinuses most commonly fronto-ethmoid complex. They may expand, destroy bone structure and cause orbital and intracranial extension. Clinical presentation is variable and related to its extension. Computerized tomography and magnetic resonance are determinant not only for diagnosis but also for evaluation of the extension and programming best treatment. Treatment is exclusively surgical and consists of draining secretions and cyst marsupialization by external, endoscopic or combined technique. In this study we report demographic data, clinical features, treatment and follow up of paranasal sinus mucocoeles.

Retrospective review of medical charts of patients with paranasal sinus mucocoele managed at the

Ophthalmology Department of Santa Casa de Misericórdia de São Paulo from 1995-2018.

Sixteen patients were included in this study. Frontethmoidal mucocoeles were the most common, presenting as proptosis and eye displacement. Men and women were equally affected and mean age was 61 years old. Previous trauma and sinusopathy were the main risk factors. Diagnosis was based on medical history and typical CT findings. All cases were managed using combined approach (external and endoscopic). After a minimum of 2-year follow up only 3 recurrences and 1 complication were reported.

Our findings regarding demographic data, risk factors, main topography and diagnosis are similar to current literature. Combined technique is not extensively reported as a possible approach but, in our experience it is a safe procedure, with low recurrence and complications rate.

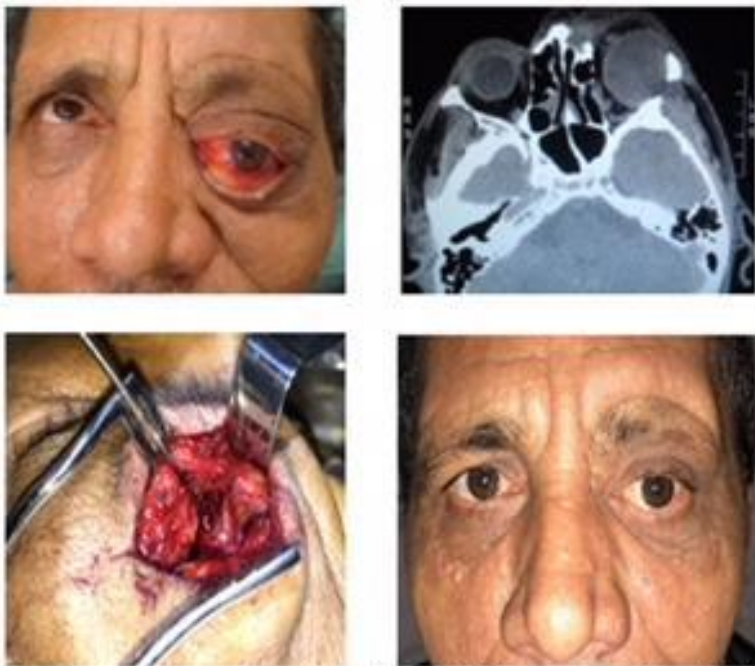


Figure 1: Pre operative (A) axial CT (B) intra operative (C) and 1 month post operative (D).

[Figure 1]

PO16

Bilateral orbital vascular malformations in a patient with phantosmia

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Background: Phantosmia is an olfactory hallucination of unpleasant odours. Valsalva manoeuvres are often adopted by patients to self-treat this rare condition. However this can increase head and neck venous pressure leading to secondary vascular malformations. No previous literature exists linking phantosmia and orbital vascular malformations. Our objective: to describe a rare case of bilateral orbital vascular malformations in a patient with phantosmia.

Methods: 34-year-old female patient presented to the Eye Emergency Department with sudden-onset, severe, right lower eyelid swelling and pain. Snellen visual acuity was 6/9 right, 6/6 left. She had limitation of downgaze of the right eye but normal optic nerve function. Exophthalmometry and intraocular examination were normal.

The patient described a 14-year history of daily phantosmia symptoms following head trauma. She had self-treated this with Valsalva manoeuvres for four years after other treatments failed. The patient first noted bilateral lower lid swelling associated with Valsalva manoeuvres one year earlier. She also had Von



Willebrand disease, which likely contributed to haemorrhagic component.

Results: CT orbit scan at presentation demonstrated bilateral lower lid and orbital vascular malformations, with acute haemorrhage in the right inferior orbit. A subsequent MRI orbit delineated the extent of the orbital vascular malformations. The patient experienced spontaneous resolution of the eyelid swelling and ocular dysmotility over the following weeks. However as she continued her Valsalva manoeuvres, she later experienced relapse and remission of the acute orbital haemorrhages which alternated between each orbit over time but without optic nerve compromise.

Conclusions: This unique case highlights the risk of orbital vascular malformations when performing frequent long term Valsalva manoeuvres. In addition to addressing any orbital complications, patients with phantasmia require otorhinolaryngological and neurological assessment for neoplasia or demyelination. Phantasmia treatment is challenging, but some patients benefit from decongestant nasal sprays, nasal douches, systemic antidepressants or systemic GABA agonists.

PO17

Solitary fibrous tumor of the orbit: a case series and review of the literature

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Objectives: To report the management and outcome in patients with solitary fibrous tumor (SFT) of the orbit of a single tertiary referral center.

Methods: Non-comparative retrospective study of thirteen patients with SFT of the orbit referred to our Orbital Unit between January 2004 and January 2019 and review of the literature.

Results: Median age at diagnosis was 49y, with predilection for male. The frequency of recorded cases had increased during the last 10 years.

Clinical presentation was related to the lesion localization: unilateral painless proptosis was the most frequent initial sign (12/13 cases).

Orbital SFTs were localized in the intraconic space in 8/13 cases (62%), in 23% of patients in the extraconic space (3/13), while only in 2 cases the mass was both intra and extraconic (15%).

All tumor cells had strong immunoreactivity to CD34. SFTs exhibited diffuse positivity with Bcl-2 in 9 patients (69,23%) and with CD99 in 6 cases (46,15%). One case showed a high proliferative index (ki-67>15%) with more aggressive clinical course.

Out of thirteen patients, 8 cases were treated with complete surgical resection, with no adjuvant treatment and no recurrence; four patients underwent subtotal tumor removal followed by adjuvant radiotherapy, and had a recurrence with an average time of 66 months (range 1-132 months). Finally, 1 patient underwent semi-exenteration of the orbit due to impossibility of performing a conservative surgery.

Conclusions: The occurrence of SFT in the orbit has been considered for many times very rare. It seems that since immunohistochemical techniques was used, orbital SFT has been increasingly recognized. Orbital SFTs are generally considered as benign tumors. According to the literature, in our patients the prognosis of orbital SFT is related to the initial treatment: complete surgical excision is the therapy of choice. It does not appear that adjuvant radiotherapy has brought encouraging results.

PO18

Removal of large intradiploic epidermoid cysts of the bony orbit

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Objectives: Intradiploic epidermoid cysts (IEC) of the bony orbit form a rare entity that is separate from dermoid cysts. This report aims to present 10 patients with IEC and review of the relevant literature.

Methods: The charts of 10 patients surgically treated in 3 tertiary referral centers between November 2004 and August 2018 were reviewed. Recorded data included demographic and clinical characteristics,



radiologic findings, surgical approach, postoperative results and follow-up period. The orbital IEC cases reported in the English literature after 1990 were also reviewed.

Results: We retrospectively evaluated 10 patients with IECs of the bony orbit. Of 10 patients, 7 were males and 3 were females with an age range of 14-35 years (mean 26 years). The common presenting symptoms were painless proptosis (n=9), inferior globe displacement (n=6) and ptosis (n=5). The IECs involved the frontal bone in 9 patients and/or the sphenoid bone in 4 patients. In 6 patients the IECs eroded both tables of the orbital bones and expanded intracranially. In all patients, the cysts were removed through a superior and/or lateral orbitotomy without damaging the dura. During the follow-up period of 2-98 months (mean 19 months), 1 patient developed recurrence. Since 1990, a total of 35 patients with orbital IECs (18 females, 17 males) had been reported in the literature in 14 articles. In these cases, frontal and/or sphenoid bone involvement was reported in 19 (54%) patients and 16 (46%) patients, respectively. The intracranial cyst extension was noted in 6 (17%) patients. Postoperative recurrence occurred in 3 patients.

Conclusions: In this series, the orbital IECs were mainly seen in adult males and the most common presenting symptom was painless unilateral proptosis. Most IECs could successfully be removed with orbitotomy. Craniotomy should be combined with orbitotomy in patients presenting with large intracranial extensions.

Lacrimonal – Session

Saturday, 14.09.2019, 9:45

L01

Inflammatory punctal stenosis. The missing diagnosis and treatment

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Background: One of most faced, rarely investigated causes of epiphora is inflammatory punctal stenosis. The aim of this work is to study it and to show to be managed properly.

Methods: From 017 to 2019, patients presenting with epiphora secondary to acquired edematous punctal stenosis were included in this study. Patients were examined to exclude other causes of epiphora. Slit-lamp assessment and grading of the stenosed punctum was done followed by syringing to exclude nasolacrimal duct obstruction.

For all cases, topical anaesthesia using proparacaine hydrochloride 0.5% was applied followed by embedding a small piece of cotton pledget, soaked with proparacaine hydrochloride 0.5%, in the Fornix area close to the punctum. After 5 minutes, the cotton pledget was removed and 10 units of 2% Lidocaine HCL were injected close to the punctum from the conjunctival side. This was followed by injecting 20 mg of methylprednisolone acetate at the same area. In the following 3 to 5 months; epiphora and punctal stenosis were evaluated and graded.

Results: Study included 200 lacrimal puncta (170 lower and 30 upper) of 115 patients with an age range 30-50 years old. Punctal stenosis grade 0 (punctal opening cannot be seen) presented in 170 puncta and grade 1 (punctal opening hardly seen) presented in 30 cases.

For all patient, one month after steroid injection, punctal oedema started to decrease with improvement in tear meniscus and eiphora symptoms. One month later, patients with grade 0 punctal stenosis required one more time steroid injection to achieve improvement of their punctal stenosis to grade 2 and to free from epiphora symptoms while other patients were improved completely with no further steroid injection.

Conclusions: Long acting steroid injection close to the punctum is simple, safe and very effective for treatment of patients with epiphora secondary to inflammatory punctal stenosis.



L02

Three-snip punctoplasty versus perforated plugs for management of lacrimal punctal stenosis

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Purpose: To compare polyvinylpyrrolidone (PVP) perforated punctal plugs and 3-snip punctoplasty for management of epiphora due to lacrimal punctal stenosis.

Patients and methods: In a prospective comparative interventional study, 80 eyes with epiphora due to lacrimal punctal stenosis were distributed in two groups. Group A treated by insertion of PVP perforated punctal plugs (FCI ophthalmics) TM and group B treated by 3 snip punctoplasty. The study was done in Minia University Hospital between January 2018 to April 2019. Exclusion criteria included allergic punctal occlusion, lid malposition, canalicular, lacrimal sac, nasolacrimal duct obstruction and congenital punctal stenosis. All patients were subjected to complete history taking, ocular and lacrimal examination including slit lamp examination of tear meniscus height, punctal orifices position, shape and grading of stenosis.

Results: Four eyes (5%) had no papilla and punctum (grade 0), forty four eyes (55%) had papilla covered with a membrane (grade 1), and thirty two eyes (45%) eyes had punctum less than normal size (grade 2). Fluorescein dye disappearance test was over 5 min (grade 3) in all patients. Free passage into the nose was obtained in all patients with nasolacrimal system irrigation. By the end of 9 months follow up period, the epiphora score was grade 0 to 1 in thirty six eyes (90%) in group A and in twenty four eyes (60%) in group B with clinically significant difference ($p=0.192$).

Conclusions: Both perforated punctal plugs and 3 snip punctoplasty are safe and effective in treatment of epiphora due to punctal stenosis. However, perforated punctal plugs are minimally invasive, better tolerated and have superior more stable results compared with 3 snip punctoplasty.

L04

Factors affecting the anatomical and functional success rate in canalicular laceration repair

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Objective: To evaluate the factors determining the anatomical and functional results in primary canalicular laceration repair

Method: In this observational study, we reviewed the medical records of all cases underwent primary canalicular laceration repair in a tertiary hospital between 2016 and 2018. All cases were repaired by monocanicular stent (minimonoka). Anatomical and functional patency were assessed by the presence of epiphora, lacrimal system irrigation, dye disappearance test and scintigraphy. The effect of demographic characteristics, causes of canalicular laceration, accompanying orbital injuries, anatomical location of laceration, and time of repair were evaluated.

Results: Out of 210 eyelid laceration, 40 cases (82% male) with mean age of 33 ± 17 years (ranged, 4-77) with canalicular laceration were included in the study. The causes of injury were car accident (45%), occupational injury (20%), quarrel (20%) and others (15%). Laceration of the distal part of canaliculus occurred in 75% and the proximal part in 25%. Lower canaliculus was involved in 65% of the cases and bicanicular injury in 18%. Eighty percent of the cases were repaired in less than 48 hours from the injury. Anatomical patency, confirmed by irrigation test, was achieved in 93%. Epiphora improved in 75%. Multivariate analysis demonstrated that laceration of distal part had lower success rate ($P < 0.05$). The lower success rate was also seen in cases with repair after 48 hours ($P < 0.05$).

Symptoms and dye disappearance test were relatively abnormal in lower canaliculi laceration, complex injuries and delayed operation time.

Conclusion: Our results showed that the primary canalicular laceration repair using monocanicular stent have an overall excellent anatomical success rate. Proximity of laceration and early repair may improve the outcome. Distal laceration location, lower canaliculi laceration and accompanying orbital injuries could deteriorate the functional success rate.



L05

A study of 46 consecutive canaliculitis patients treated with non incisional punctal dilatation and canalicular curettage

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Objective: To describe the outcomes of non incisional punctal dilatation and canalicular curettage in patients diagnosed with canaliculitis.

Methods: This is a retrospective analysis 53 canaliculi of 47 eyes of 46 consecutive patients diagnosed with canaliculitis from November 2015 to February 2019 and treated with punctal dilatation and non incisional canalicular curettage. The clinical presentation, findings, management, microbiology, and treatment outcomes were studied. The outcome measures include resolution of canaliculitis and post resolution epiphora.

Results: The mean age was 59.34 years with female preponderance (M:F = 19:28). Left eye was more affected (64%, n=30) as compared to the right (36%, n=17). A single patient presented bilaterally. Lower canaliculus was most commonly involved (68%, n=32), of which 6 showed involvement of both upper and lower canaliculus. Presenting symptoms included pain (39%), redness (51%), discharge (81%), swelling of the eyelids (64%), and watering (55%). Punctal dilatation and non incisional canalicular curettage was performed using punctal dilator and smallest chalazion scoop (no 1). Thirteen patients (14 eyes) underwent a repeat curettage for the non resolving canaliculitis and 1 patient underwent the same procedure thrice. Most common micro-organism isolated was streptococci species (28% cases). Resolution of canaliculitis was seen in all the patients with 27 patients (57%) reporting no epiphora post treatment. Epiphora was present in 9 patients (19%) and in 11 patients (23%) data regarding epiphora was missing. The mean follow up duration was 6.8 months.

Conclusion: This non invasive technique preserves the punctal anatomy and hence gives better control of epiphora post treatment.

L06

Laser-assisted transcaruncular stoploss Lester Jones tube surgery for lacrimal canalicular obstructions

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Objective: To describe a novel diode laser-assisted, transcaruncular stoploss Lester Jones tube procedure without any skin incisions for the treatment of lacrimal canalicular obstructions.

Methods: Following a 3-mm caruncular incision and gently advancing dissection in an inferomedial 30-45° direction towards the nasal bone, a 300-µm laser fiber connected to an 810-nm wavelength diode laser was inserted into the track and positioned under visual control using nasal endoscopy, so that the laser's aiming beam appeared at the anterior margin of the middle turbinate. Laser energy (power 5-10 W, pulse duration 90 ms, exposition pause 50 ms) created a bony ostium with a 3.5-mm diameter. After measuring the distance between the caruncle and the nasal mucosa, a stoploss Lester Jones tube of the required length was passed down the guide wire until the silicone flange opened within the nose. The guide was removed, and a suture was passed around the neck of the tube and secured to the caruncular conjunctiva.

Results: Laser-assisted, transcaruncular stoploss Lester Jones tube surgery was performed successfully in twelve consecutive eyes. In three cases (25%), conjunctival scarring and/or tube-associated irritation of the ocular surface required conjunctival revision. There were no cases of tube migration or extrusion. Short-term follow-up revealed excellent patient satisfaction.

Conclusions: Our novel technique of diode laser-assisted, transcaruncular stoploss Lester Jones tube procedure seems to be a promising strategy for the treatment of lacrimal canalicular obstructions. Advantages include the lack of skin incisions and visible scars, the less risk of bleeding due to the vaporization method, and the reduced risk of tube migration or extrusion due to the endonasal silicone flange as well as the conjunctival external flange. In the future, clinical trials are a high priority to follow up larger number of patients.



L07

Stoploss tubes are associated with improved outcomes compared to the standard Lester Jones Tube in Conjunctivodacrycystorhinostomy: a retrospective cohort study

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Objectives: To explore the difference between the Stoploss tube and the Standard Lester Jones Tube (LJT) in patients undergoing Conjunctivodacrycystorhinostomy (CDCR).

Methods: A retrospective observational study of patients underwent CDCR in a Tertiary University Hospital in the UK from January 2008 to January 2018. Eyes underwent CDCR in the above period were included. Surgery was done via external and endonasal approach. Primary outcome was the rate of tube extrusion. Secondary outcome were patient satisfaction, complication rate, tube replacement.

Results: Twenty eyes met the inclusion criteria, of which 10 eyes had the Standard LJT and 10 eyes had Stoploss tube. LJT diameter ranges from 3mm to 5mm (Mean: 3.6mm) and LJT length ranges from 8mm to 20mm (Mean: 14mm). Patient satisfaction was 65% with standard LJT versus 76.5% with Stoploss tube. Overall complications rate was 65% with the standard LJT versus 41% with the stoploss tube. Tube replacement was 50% with standard LJT versus 23.5% with stoploss tube (**P=0.04**). Tube extrusion was 40% with standard LJT versus 0% with stoploss tube (**P=0.002**). Further analysis was done for patients underwent CDCR with primary stoploss tube. We have found that patient satisfaction had increased to 80% and the complications rate had decreased to 30%.

Conclusion: Our analysis showed that the use of Stoploss tube in CDCR was associated with significant reduction in tube extrusion and tube replacement rates as well as improved patient's satisfaction compared to the standard LJT. However, further work is needed to confirm these findings with a larger sample size.

L09

Endonasal endoscopic dacryocystorhinostomy in the cases of iatrogenic nasolacrimal duct injuries

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Objective: To analyze the cases of iatrogenic damaging of the nasolacrimal duct (NLD) during Functional Endoscopic Sinus Surgery (FESS).

Methods: Prospective, non-randomised, interventional case series. 16 patients (9 females and 7 males) with primary NLD obstruction following FESS-procedure were included over a period of 4 years from 2015 to 2018. Exclusion criteria were presence of epiphora before the endonasal surgery and already treated NLD-obstruction.

All patients underwent CT-scanning with contrast enhancement. The level of obstruction was evaluated. The distance between posterior wall of bony nasolacrimal canal and anterior edge of the natural ostium of the maxillary sinus was measured on the intact side in cases of unilateral surgery. Endoscopic DCR procedure was performed in all cases (17 surgeries in total). Probing of the NLD was done intraoperatively to verify the level of obstruction. The follow-up period was 12 months.

Results: There were constant tearing only in 10 patients (10 cases) and epiphora with purulent discharge in 6 patients (7 cases) before treatment. The obstruction was detected at the level of middle third of NLD in 14 patients (15 cases) and at the level of upper third of NLD in 2 patients (2 cases). The posterior wall of NLD was damaged in 10 patients (10 cases) and all the walls of NLD were involved in 6 patients (7 cases). The distance between posterior wall of the bony nasolacrimal canal and anterior edge of the natural ostium of the maxillary sinus was 3.59 ± 0.3 mm on the average. The final success was achieved in 94.1% of cases.

Conclusion: An inadvertent injuring of the NLD during endoscopic maxillary sinus surgery is rare. The incidence of this condition increases as the FESS-procedures become more popular. The close location of the NLD to the natural ostium of the maxillary sinus should be assessed before surgery.



Orbit II – Session

Saturday, 14.09.2019, 11:40

OS201

Assessing emergency doctors' knowledge of indications and technique of lateral orbital canthotomy and cantholysis for orbital compartment syndrome

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Background: Acute orbital compartment syndrome (AOCS) is a rare, yet reversible, sight-threatening emergency often necessitating immediate orbital decompression. This is achieved by performing an emergency lateral canthotomy (ELC) and cantholysis to release ocular pressure, restore perfusion and prevent irreversible loss of vision. During out-of-hours, when specialist ophthalmology intervention is not immediately accessible, patients can present to the emergency department where emergency doctors' recognition and prompt management of this condition can be sight-saving.

Aim: To assess emergency doctors' knowledge of lateral orbital canthotomy and cantholysis.

Method: An online survey was distributed to emergency doctors in all stages of training who were working in London hospitals. The survey explored doctors' familiarity with orbital compartment syndrome, their confidence in providing management and their views on training. A case vignette and anatomical scenarios were also included to ascertain their knowledge levels and confidence in various topics.

Results: 56 doctors completed the survey, with the majority of respondents being consultants. Although 64% of doctors felt they could identify when an ELC was indicated, as many as 56% felt that they would not be able to perform this procedure in an emergency. This appeared to stem from a lack of exposure to the procedure and poor training, with only 12% and 27% having performed and observed a canthotomy respectively and a mere 36% of respondents receiving adequate training. 86% reported that they felt more education in this area was required.

Conclusion: Whilst the majority of survey respondents felt that they could identify when an ELC was required, it was clear from the survey that many did not feel confident in performing the procedure thereby risking preventable sight loss. Whilst AOCS is uncommon, its management with sight saving ELC and cantholysis should be incorporated in to the United Kingdom Royal College of Emergency Medicine curriculum.

OS202

Redesigning Rundle's curve for thyroid eye disease?

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Purpose: Since 1945 Rundle's curve is used to describe the temporal activity and severity of thyroid eye disease (TED). However many patients' disease do not follow this standard. Also Rundle did not incorporate the course of the endocrine disease. The study aims to explore the temporal relation of Dysthroid optic neuropathy (DON) and subsequent ocular treatment outcomes relative to the course of the endocrine disease to create a multidisciplinary perspective to improve predictive and diagnostic criteria for this syndrome.

Methods: A retrospective case note review of DON patients seen at three linked Thyroid MDT clinics. Parameters included patient demographics, clinical and radiological features, timeline and thyroid status and eye disease severity/activity, management and outcome.

Results: There were 17 DON patients (Male 4, Female 13), median age 44yrs (IQR 33-54). Radio-iodine/Thyroidectomy 59% (10) before DON. 82% (14) were euthyroid at DON diagnosis. Median time to DON diagnosis was 7 months (IQR 1-38 months). 76% of patients euthyroid at DON diagnosis. 29% were smokers. 59% had thyroid family history, 23.5% had diabetes. Presenting VA >6/12 in 47%, Final VA >6/12 in 84%. All had EUGOGO DON intravenous steroid treatment. 41% underwent urgent orbital decompression. All required second line treatment. 41% had radiotherapy and 77% had second line



immunosuppression.

Conclusion: Presentation of DON can be insidious in euthyroid patients many years after onset of thyroid disease. Orbital decompression is not curative but useful as adjunctive treatment in an emergency setting. Most patients require long term second line immunosuppression and/or radiotherapy to prevent relapse. Vigilance is always essential to prevent visual loss.

OS203

Mucoceles involving the orbit: a retrospective review

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Background and Purpose: Mucoceles involving the orbit are rare occurrences. We aim to report the spectrum of mucoceles involving the orbit encountered in a tertiary referral centre with respect to presentation, risk factors, management and outcomes.

Methods: A retrospective chart review was performed on all adult patients with mucocele involving the orbit from 2004 to 2017 in a tertiary setting.

Results: 32 cases of mucoceles involving the orbit were included in this series. Common risk factors included previous craniofacial surgery or trauma, smoking, chronic rhinosinusitis or mass lesion. The frontal and ethmoid sinuses were frequently involved whereas maxillary and sphenoid sinus involvement was rare. Most common presenting features included pain, proptosis, diplopia, periorbital swelling and ophthalmoplegia. Rare sequelae included optic neuropathy, branch retinal vein occlusion and seizures. Drainage was performed via endoscopic approach in 14 patients, external approach in 7 patients, and combined approach in 2 patients. Mean follow-up was 14 months and recurrence rate was 23% (excluding patients lost to follow-up and with predisposing mass lesion).

Conclusions: A large series of mucoceles involving the orbit has been presented. Any of the sinuses may be involved, although the fronto-ethmoid sinus is the most common origin. The disease may present with a range of orbital symptoms and signs, and in rare cases it is potentially vision or life-threatening. Recurrence is common. Diagnosis and management by a multidisciplinary team of ENT and orbital surgeons may be required.

OS204

Patients with dilated superior ophthalmic vein sign and carotid-cavernous fistula

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Purpose: Dilated superior ophthalmic vein (SOV) is an uncommon radiographic finding. It is described to be common in carotid-cavernous fistulas (CCF). The aim of this investigation was to determine the clinical and radiographic features of patients presenting with CCFs and ophthalmic symptoms to a large tertiary referral centre in Germany.

Methods: A retrospective chart review was conducted at the department of Ophthalmology at the LMU Munich. Inclusion criteria were clinical manifest CCF. Outcome measures included patient demographics, clinical features, radiological findings and treatment.

Results: Twenty-five patients were included who first presented with symptomatic CCF at the department of Ophthalmology between 2000 and 2018. All of these patients had dilated SOV. Initial clinical subjective complaints were redness of the eye (68%), decreased vision (68%), diplopia (60%), conjunctival chemosis (68%), eye pain (56%) and severe headache (28%). Severity Score was assessed by number of symptoms (Mean: 4.24 +/- 1.3) Ophthalmic findings consisted of proptosis (76%) with an average difference of 4 mm on Hertel exophthalmometry. No specific clinical sign was found in all patients presenting a dilated SOV. All of these patients showed a widening of the superior orbital vein on radiological imaging. The mean



diameter of the dilated SOV was 0,45(+/- 0,09) on the affected side and 0,16 (+/-0,03) mm on the normal side ($p < 0,05$, Wilcoxon signed rank).

Conclusion: In our investigation all patients with a newly diagnosed CCF show heterogenous clinical signs and there was no obvious correlation of radiographic and clinical signs. However, in all of them a dilated SOV was present on imaging.

Therefore, CT/MRI scans should be performed in all patients presenting with any suspicion of CCF and we ophthalmologists should be aware of this radiographic sign.

OS205

Clinical activity score for orbital GPA

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Background: Orbital involvement in Granulomatosis with Poliangiitis (GPA) is typical and ranges the second most often among ophthalmological manifestations after scleritis and episcleritis. The estimation of inflammation activity is sometimes critical for treatment strategy and assesment of treatment efficacy. The Birmingham Vasculitis Activity Score (BVAS) is not reliable in the majority of cases with orbital involvement especially in local disease.

The aim of our study was to work out clinical activity score that would be a reliable tool to follow the dynamics of orbital GPA.

Methods: 71 patients with orbital GPA were enrolled into the study, 22 males and 49 females. Median age was 53 years (from 21 till 82). 44 patients had local and 27 systemic disease. We studied the following symptoms and signs: periorbital oedema, periorbital hyperemia, orbital and periorbital pain, proptosis (in dynamics), eye redness, chemosis, squint (in dynamics), binocular double-vision (in dynamics), ocular movement restriction (in dynamics), orbital mass and/or bony destruction (in dynamics).

Results: Correlational analysis showed significant strong association ($r > 0.7$) of periorbital oedema, pain and proptosis increase with disease activity. All the other signs showed moderate correlation, except bony destruction that had low correlation. Based on this data a clinical activity score was proposed. It includes all studied symptoms and signs. The presence of the most significant signs (oedema, pain and proptosis increase) is graded as 2, and the rest as 1 point.

Conclusion: A Clinical Activity Score was developed for orbital GPA and we propose to use it for estimation of inflammation activity dynamics in the follow-up.

OS206

Magnetic resonance imaging was useful to confirm the treatment target and therapeutic-effect of triamcinolone acetanide local injection in Graves' ophthalmopathy

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Introduction: It is well known that the local injection of triamcinolone acetanide (TA) is useful for upper eyelid retraction or upper eyelid swelling in Graves ophthalmopathy (GO). However there has been only few reports in which TA was injected to peri levator palpebral superioris muscle (LPSM). Furthermore there has been no report in which the treatment target or the therapeutic-effect of TA local injection was confirmed using magnetic resonance image (MRI).

Subjects: Subjects were GO patients with upper eyelid retraction and/or upper eyelid swelling treated by TA injection to peri-LPSM in Okayama Medical Center from January, 2012 to December, 2017. All patients were followed up more than three months. Patients who was treated by systemic steroid administration were excluded. 16 cases (17 eyes) were included in this study. Six cases were male and 10 cases were female. The average age was 40.7 years old.



Method: The injection method was as follows. The upper eyelid was everted, the conjunctival fornices was cut open by the scissors, and tissues were separated bluntly along LPSM. The round-pointed needle was inserted to a depth of 1.5 to 3 cm according to the location of inflammation, and 40mg of TA (1 ml) was injected. The coronal and sagittal image of MRI carried out before and after injection.

Results: The LPSM swelling, signal intensity of LPSM and signal intensity of orbital fat reduced in 14 cases (15 eyes) in MRI. Two cases (2 eyes) in which the signal intensity of the lesion was low from the beginning could not obtain the improvement.

Conclusions:

1. TA injection to peri-LPSM could reduce the inflammation of injected site.
2. MRI was useful for confirm a treatment target and the therapeutic-effect.

OS207

Prognostic markers for success in Optic nerve sheath fenestration for preserving vision in raised intracranial pressure

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Background: Optic nerve sheath fenestration (ONSF) is one of the treatment modalities in sight threatening papilledema secondary to raised intracranial pressure. In this study we aim to look into various risk factors and its correlation to visual improvement in these patients.

Method: Patients were identified based on the coding system for ONSF from the hospital database. Retrospective collection of data and analysis of all the patients who underwent this procedure at a tertiary care centre.

Result: 79 eyes from 38 patients were included for the purpose of this study. Mean age was 32 years.

- No correlation was noted between the age at presentation or sex of patient and visual outcome after ONSF.
- IIH patients presented with worse visual acuity than the venous sinus thrombosis and thus slightly poorer prognosis. The only patient with granulomatous meningitis had counting finger vision but improved to 6/9 post ONSF
- Even though high BMI is associated with IIH, no correlation was noted between the BMI and visual improvement post-ONSF.
- No correlation was noted between the opening CSF pressure and the visual improvement post-ONSF
- Correlation was noted between the presenting colour vision, presenting visual acuity and presenting mean deviation on visual field and the final colour vision, visual acuity and visual field.
- Presence of optic atrophy at presentation had poor prognosis
- Intraoperative complication like bleeding in one patient significantly affected the outcome of the surgery.

Conclusion: We have noted various prognostics markers associated with success of optic nerve sheath fenestration which will be useful for counselling our patient regarding the success in this complex pathology.

OS208

Ocular adnexal lymphomas: a multicenter retrospective study

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¹Catholic University, Rome, Italy, ²University of Naples Federico II, Naples, Italy

Introduction: The aim of this study was to retrospectively review the dataset of patients affected by ocular



adnexal lymphoma (OAL), analysing the histopathological findings, the main risk factors, the TNM-staging, the efficacy of treatments and the recurrence rate.

Methods: One hundred and forty-one consecutive cases of OALs, from 2007 to 2016, of two Orbit Departments, University *Federico II* of Naples and *Fondazione Policlinico Gemelli IRCCS*, Rome, were included in this study. We excluded patients with conjunctival lymphoma. Primary endpoint was to analyse the histopathologic findings, the main risk factors and the type of treatment and to correlate them with recurrence of OAL. Secondary endpoint was to determine the progression-free survival (PFS).

Results: The average follow up was 48 months (range 24-96).

Extranodal marginal zone B-cell lymphoma (EMZL) was the most frequent subtype (66%), followed by small lymphocytic lymphoma (SLL) (12.7%), diffuse large B-cell lymphoma (DLBCL) (9.2%), follicular lymphoma (FL) (6.6%), mantle cell lymphoma (MCL) (4.3%) and Burkitt lymphoma (BL) (1.2%). Primary EMZLs and MCLs were frequently treated with external beam radiation therapy. Secondary EMZLs, FLs and BLs were mainly treated with chemotherapy. SLLs and DLBCLs were primarily treated with a combined therapeutic regimen. The probability of relapse seems to be influenced by the histopathologic subtype DBCL (OR = 7.7, 95% CI 1.8-32.3) and the chemotherapeutic treatment (OR= 14.9, 95% CI 2.6-83.7). Multivariate analysis showed that the histopathologic subtype DBCL and the chemotherapeutic treatment retained statistical significance for a poorer PFS, with a hazard ratio of 8.581 ($p=0.0112$) and 9.239 ($p=0.0094$), respectively.

Conclusions: Five lymphoma subtypes are primarily found in patients with OAL. The histopathologic subtype and the type of treatment are found to be the main predictor for outcome: the histopathologic subtype DBCL and the chemotherapeutic treatment are correlated with recurrence of OAL and a poorer PFS.

OS209

Second line immunosuppression with mycophenolate in Graves ophthalmopathy

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Objectives: Graves Ophthalmopathy (GO) is a complex condition with the potential for significant visual disability. The EUGOGO consensus for first line treatment in active moderate/severe disease is 12 once weekly course of intravenous steroids (IVMP). Although this has good efficacy (improvement seen in up to 63%) sustaining the treatment response and avoiding relapse over the disease course has proven challenging. The MINGO study has shown promise for mycophenolate (MMF) as a second line agent.

Methods: Retrospective review of 19 patients with moderate to severe GO treated in an MDT thyroid eye clinic and started on MMF post IVMP. Data collection included reported symptoms, clinical findings and clinical activity score (CAS score) before and after treatment, side effects, adverse events and the need for re-treatment with steroids.

Results: Our analysis included 8 males and 11 females with a median age of 53, 9 of whom had DON. A mean reduction in the CAS score of 2.13 (range 0 to 6) was found following initiation of MMF ($p< 0.0001$). Follow up duration ranged from 1 to 10 months and the dose of MMF ranged from 500mg to 2g daily. Most patients have reported improvement in pain with over 80% reporting an improvement in diplopia and a third showing improvement in periorbital swelling.

Only one patient required maintenance with concurrent oral prednisolone. One was refractory to MMF and was switched to ciclosporin. One discontinued due to muscle cramps, and another was excluded due to incomplete data. No significant adverse events were reported.

Conclusions: Our experience shows promise for the role of MMF as a second line agent. We have seen an encouraging improvement in disease activity with a safety profile comparable if not superior to steroids.



Miscellaneous – Session

Saturday, 14.09.2019, 14:40

M01

Ocularist's art 150 years ago - exemplified by the Rostock glass eye collection of anterior segment pathologies

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In the second half of the 19th century ocularist not only supplied patients with artificial eyes but also produced a few collections of anterior segment eye pathologies for educational and scientific purposes. Very recent research have demonstrated that the “Rostock Artificial Eye Collection” - assembled 150 years ago with 132 glass modelled exhibits of anterior segment pathologies - is mainly based on the figures of the Atlas of Ophthalmology published by Antoine Pierre Demours in 1818. The spectrum of eye diseases displayed in the Rostock collection is dominated by various Ectasies of cornea and sclera as well as posttraumatic malformations. This may demonstrate in part the scientific interest of Karl Wilhelm Zehender (1819 - 1916) the first chairman of Rostock University Eye Department and his co-worker Arnaldo Angelucci (1854-1933) how later became professor and head of the Messina the Palermo finally the Naples University Eye Departments.

Some differences in the spectrum of eye diseases 150 years ago and today are discussed and analysed.

M02

Validation of a simple standardized three-dimensional anthropometry for the periocular region in a European population

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Objective: Non-invasive three-dimensional (3D) stereophotogrammetry is becoming increasingly popular for appraisal of anatomical morphology in longitudinal studies and clinical practices in many fields, such as dentistry, maxillofacial surgery, aesthetic surgery, and anthropology. However, few studies have assessed 3D periocular characteristics and surgical outcomes. This study aimed to propose a standardized 3D anthropometric protocol for the periocular region, investigate its precision and accuracy compared with direct anthropometry and two-dimensional photogrammetry, and determine the 3D periocular anthropometric norms for young Caucasians.

Methods: Fifty healthy Caucasian volunteers (100 eyes) were enrolled. Three-dimensional facial surface images were obtained with a VECTRA M3 stereophotogrammetry device. Fifty-two periocular landmarks were identified, and then 49 corresponding linear, curvilinear, and angular measurements were evaluated for precision and intrarater, interrater, as well as intramethod reliability.

Results: The reliability and validity of this imaging system and the landmark identification protocol turned out to be high for most of the studied measurements. Additionally, 63% of measurements in linear distances, curvatures, angles, and indices were found to reach a statistically significant difference between genders ($p \leq 0.05$, respectively). Across all measurements, the average mean absolute difference (MAD) was 0.29 mm in linear dimensions, 0.56 mm in curvatures, 1.67° in angles, and 0.02 in indices. In relative error of magnitude (REM), 18% of the measurements were determined excellent, 51% very good, 31% good, and none moderate.

Conclusion: This is the first study to propose a detailed and standardized 3D anthropometric protocol for the periocular region and confirm its high precision and accuracy. The results provide novel metrical data concerning young Caucasian periocular anthropometry and determined the variability between genders.



M04

Diagnostic accuracy of direct referrals for excision biopsy on non-consultant led minor operations lists

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Purpose: In the UK, many ophthalmology units offer a direct referral pathway for excision of so-called "lumps and bumps". Such operating lists are usually run by nurse practitioners or junior registrars. Previous studies have suggested a high concordance between GP's and Ophthalmologists in diagnoses and with 0% of 32 benign referrals proving malignant on histology. In order to evaluate the safety of this patient treatment pathway, we investigated the diagnostic accuracy of such referrals, comparing them to post-operative histological diagnoses.

Methods: We retrospectively reviewed all direct-referral minor operating lists over a 16 month period, assessing referral criteria, timing for surgical intervention, diagnoses before and after biopsy and final outcomes

Results: 191 patients were treated in the time period, 84% of lesions were benign and 16% malignant. Six lesions (3%) were referred as benign and proved malignant (BCCs and follicular lymphomas). Conversely, eight lesions (4%) were referred as malignant but proved benign: actinic keratoses, seborrheic keratoses, retention cysts, chalazia and papillomas. Specific diagnoses by GPs were accurate 49% of the time, whilst 91% of ophthalmologists' pathology requests forms tallied with the histological diagnoses.

Conclusion: Whilst the vast majority of lesions treated in minor operating lists are benign (84%), there is an unexpected benign or malignant result 7% of the time. Even specialists have a 1 in 10 chance of an incorrect presumptive diagnosis. Minor operating lists should therefore be treated with caution; referral of a lesion to a non-urgent minor ops list could delay time to diagnosis. The data also suggests that all lesions be sent for histology - 7% of the time the result is unexpectedly benign or malignant and even experts are wrong in their specific diagnosis around 10% of the time. There is, arguably therefore, no such thing as a "minor" operating list.

M05

Cheek-midfacelift as a technique in reconstructive ophthalmic plastic surgery

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Introduction: Cheek-midfacelift is a common technique in aesthetic ophthalmic plastic surgery. The technique is considered being safe and very powerful when dealing with ptosis of the middle part of the face. The purpose of the present audit is to assess whether the technique is safe and successful when dealing with malpositions of the lower eyelid in non-cosmetic indications.

Patients: 15 patients (7 females and 8 males) with a mean age of 77 years (range, 61-89 years) were included. One patient had the surgery on both eyes, therefore there has been performed 16 surgeries in our group. All the patients were indicated for cheek-midfacelift because of malposition of the lower eyelid due to failed lower blepharoplasty (6 cases), failed previous ectropion surgery (3 cases), severe ectropion with negative vector (2 cases), and cicatricial ectropion after tumour excision (5 cases).

Methods: In a retrospective manner, we audit the patients' documentation and the following measurements: changes in Margin-Reflex Distance 2 (MRD2), positivity of snap-back test, and the position of the eyelid after surgery including improving of pre-surgically present scleral show. We have also rated the overall patient's satisfaction. Any complications that occurred before and after surgery were also included into the final evaluation.

Results: In all patients the MRD 2 was markedly improved. The snap-back test was negative in all patients after the surgery. Scleral show was still present in 3 patients after the surgery, including one patient with



surgery on both eyes. All patients were satisfied with the results of the surgery. There were only two temporary post-surgical complications in our group - one hematoma that resolved in 6 weeks and one transient diplopia lasting 3 days.

Conclusions: Cheek-midfacelift is a safe surgical technique that can be used as a technique of choice in patients with complex lower eyelid malposition.

M06

Clinical application of ultrasound biomicroscopy in assessment of upper eyelid ligaments

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The aim of this study was to evaluate the upper eyelid ligaments using ultrasound biomicroscopy.

Methods: 36 patients (72 eyes) were examined including 12 patients with unilateral congenital ptosis of the upper eyelid of various severity and 24 patients with unilateral acquired non-traumatic ptosis of the upper eyelid. The average patient age was 34 ± 9.6 years. There were 29 women and 7 men.

The study was conducted using ultrasound device UD-8000 (TOMEY, Japan) with 60 MHz transducer frequency. A qualitative assessment of the upper eyelid ligaments comprised measurement of the thickness and acoustic density at different scanning levels.

Levator aponeurosis, its lateral horns and area of interwoven tarsoorbital fascia into levator aponeurosis were evaluated. These findings then were used in surgery management. The scanning was carried out in the projection of these structures at a few points over a crossing of midlines running perpendicular and parallel to the upper eyelid margin.

Result: Thickness and acoustic density measurements of levator aponeurosis, its lateral horns and area of interwoven tarsoorbital fascia into levator aponeurosis showed the difference between obtained parameters and the average ones in intact eyelids. It also revealed some features of the anatomy of upper eyelid ligaments and some components of pathogenesis of the upper eyelid ptosis. Thus, if a loose and thinned levator aponeurosis was found, reinforcement of the levator aponeurosis was performed using transcutaneous approach. If there was a mild ptosis with good levator function, Fasanella-Servat procedure was performed using transconjunctival approach.

Conclusion: Ultrasound biomicroscopy allows to obtain a comprehensive assessment of the anatomy of the upper eyelid with the evaluation of linear parameters and echo density of these structures. This data may have an important clinical significance in surgery management in patients with upper eyelid ptosis.

M07

The double lateral tarsal strip, the complete treatment for the lateral canthus

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Background: Lateral tarsal strip (LTS) is a commonly used technique for treating patients with lower lid (LL) problems. Superior tarsal strip (STS) is used mainly for treating the upper lid (UL) laxity in floppy eyelid (FES). We observe patients that after LTS surgery experienced an imbalance between both eyelids. We describe the double LTS procedure, treating the lateral canthus as a whole in patients with significant laxity affecting the UL and LL.

Methods: Retrospective review of cases undergoing the double LTS procedure. An UL and LL tarsal strips are prepared, both strips are joined together using absorbable sutures, the resulting new lateral canthal tendon can be sutured to the periosteum of the lateral orbital wall at the desired height.

Results: We included 12 eyelids of 8 patients (2 women and 6 men). 4 patients had bilateral surgery. Mean age was 57,6 years (range 42 - 69). Mean follow-up was 18 months (range 4 - 32). Indications were facial palsy in 4 cases, and FES in 4 cases. All patients reported symptomatic improvement, 11 eyelids showed good canthal position and tension, one eyelid (8,3%) showed a round lateral canthus.



Conclusions: We present a technique where both lower and upper lateral canthus are treated together creating a single and new tendon. We often assess only the LL when facing patients with LL malposition, also, it is very common to correct only the UL laxity in cases of symptomatic FES. However, if only one eyelid is treated in presence of significant laxity affecting its counterpart, we can create an imbalance that in severe cases might cause symptoms. It is important to assess always both upper and lower lid laxity, and treat the problem accordingly. The double LTS seems to be a safe and effective technique as a full treatment for the lateral canthus.

M08

Survey of current practices and recommendations for delivering a sustainable multidisciplinary approach to thyroid eye disease in the United Kingdom

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Background: The Amsterdam Declaration (2009), the UK Royal College of Physicians (RCP, 2015) guidance and the UK Thyroid Eye Disease Amsterdam Declaration Implementation Group (TEAMeD-5, 2017) recommendations have the common goal of improving access to high quality care for thyroid eye disease (TED). The TEAMeD-5 recommends that all patients with moderate to severe TED should have access to a multidisciplinary clinic

Methods: The British Oculoplastic Surgical Society (BOPSS) conducted a 2-stage survey of the full membership was conducted to ascertain current practice of existing resources to meet this recommendation.

Results: Forty one percent (65/158) responded to Survey 1, and 28 (18%) respondents to Survey 2. Only 46% (21/46) rated the current RCP guidelines as good.

36/55 (55%) of the respondents rated their relationship with their endocrinology colleagues as good.

Routine quality of life assessments are recommended but only 6/28 (21%) of respondents use this modality in current practice. Approximately 60% (39/65) of respondents have an existing multidisciplinary clinic with an endocrinologist.

Care for TED appears not to be provided in a multidisciplinary context in up to 50% of centres (co-location of endocrinologist and ophthalmologist). A few areas in the UK appear not to be using intravenous steroids. In many areas, second line immunosuppression is provided in a different Trust and in some areas, it appears not to be used at all. Access to orbital decompression surgery appeared available in most parts of the country, though frequently in a different Trust.

Conclusions: This survey is a 'snapshot' of some aspects of current TED management in the UK and the findings suggest that there is scope for improvement. Based on the above we recommend a framework to enhance more robust collaboration across specialties treating TED. We propose standards endorsed by multi-disciplinary stakeholder societies for early diagnosis, assessment and treatment.

M09

Recurrent contracted sockets treated with buccal mucosal transplant and personalized 3D designed and printed conformers

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Introduction: constricted sockets may occur after irradiation, chemical burns or multiple previous socket surgeries. Standard methods often fail to prevent the socket from further constriction and the ocular prosthesis will no longer fit.



Methods: seven patients with recurrent socket contractions (Krishna stage 5) were treated with a buccal mucosal transplant in combination with fixation of a personalized 3D printed conformer. Using data from facial 3D photography, the conformer design (anterior part) was adjusted to the fellow eye in order to enable direct transmission to the subsequent ocular prosthesis. Width was adjusted to the eyelid length and for surgery goals, adaptations were introduced such as holes in the inferior and superior part of the conformer for fornix creation, or a central extension to enable long term fixation.

Results: conformers fixed in situ for 2-4 months in previously failed surgeries resulted in adequate fornix formation. Some needed a second surgery for the opposite fornix if this was not done in the first place. Retention of the prosthesis was seen in all patients with a mean follow-up of 8 months.

Conclusions: socket surgery in combination with customized 3D printed conformers enables long term fixation and resultant prosthetic wear in recurrent contracted sockets.

M10

Targeted therapy in oculoplasty

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Better understanding of molecular biology lead to production of new drugs that give hope to patients and trying to solve problems of recurrent, irresectable and metastatic tumours. Hedge-hog Pathway Inhibitors for recurrent or metastatic BCC, Epidermal Growth Factor Abs for SCC, Immune Check points Inhibitors for Melanoma metastasis. and CD20+ve Abs for B-Cell Lymphoma are examples of these new drugs.

Resistant cases of Thyroid Associated Orbitopathy not responding to steroids or orbital decompression surgery can respond well to Insulin Like Growth Factor (IL-GF) Abs.

Cases of symptomatic Fibrous Dysplasia not responding to Bisphosphonates can use RANK-L inhibitors before surgery.

And finally resistant and recurrent cases of Idiopathic Orbital Inflammations, not responding to traditional immune suppressive drugs can make use of TNF-a Inhibitors for better control.

Videos

V001

MD Codes protocol for facial rejuvenation

Joana Providência¹, Filipa Ponces^{1,2}, Célia Simões Cardoso de Oliveira Sathler³, Guilherme Castela^{1,2}

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The MD Codes™ is an innovative and revolutionary technique of facial rejuvenation, bringing the most advanced there is so far on non-invasive procedures. It was developed by the plastic surgeon Mauricio de Maio, and arose from the need to create a procedure to understand the face in their functional units for a global, harmonious and natural result.

Consists in the injection of different types of hyaluronic acid in key points of the facial subunits allowing a lifting effect and facial rejuvenation with a systematic and reproducible protocol.

We present a video demonstrating the injection technique of hyaluronic acid on a patient by the MD Codes™ protocol.



V002

Surface anatomy in Oculoplasty: A Beginner's Guide

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Oculoplastic Surgery involves several reconstructive and cosmetic surgeries involving the periorbital region and the face. A thorough understanding of the neuro-vascular and bony anatomy is of paramount importance in surgical planning as well as regional anaesthesia and nerve blocks. This video combines the demonstration of important surface anatomy of a human face, intermixed with muscle and bony landmarks on a skull model. Clinical and surgical clips to aid in understanding of periorbital vasculature and nerve blocks used in various oculoplastic and orbitofacial procedures will also be demonstrated. The foramina, fissures, facial muscles, important vessels pertaining to the orbit and face, sensory and motor nerve supply of the face along with the origin, course and distribution as well as their relations to the surrounding area are displayed. The localisation of the various periorbital nerves during common nerve blocks and oculoplastic procedures in addition to the techniques of periorbital local anaesthesia, are shown in an innovative way for better understanding.

Background statement

This video depicts periorbital surface anatomy in relation to relevant periorbital structures and anaesthesia techniques with an innovative use of skull model and artistic color wires, clay and markers. This explanatory video would immensely benefit the neophyte oculoplastic surgeons.

V003

Upper blepharoplasty and internal ptosis repair: a simplified approach

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Ptosis repair is a challenging oculoplastic surgical procedure that requires correct diagnosis, thoughtful planning, thorough understanding of eyelid anatomy, experience, and good surgical technique. The patient's ocular, medical, and surgical history help determine whether surgical repair of ptosis is appropriate for that individual.

The internal approach to ptosis repair may be directed toward the Müller muscle, the tarsus, or the levator aponeurosis or muscle. Müller muscle resections (Putterman müllerectomy) are used in patients who have an adequate upper eyelid position following instillation of a drop of 2.5% phenylephrine hydrochloride.

Müller muscle resections are typically used for repair of minimal ptosis (2 mm) and are generally considered superior to the Fasanella-Servat procedure (tarsconjunctival müllerectomy) in maintaining eyelid contour and preserving the tarsus. The Fasanella-Servat ptosis repair procedure, though also directed toward small amounts of ptosis, requires removal of the superior tarsus.

In this video, a simplified variation of the technique is observed with the achievement of 3 "U" sutures with 6-0 vycril from the surgical blepharoplasty wound, through the tarsus and conjunctiva.

The technique has been shown to be effective, safe and with a low rate of complications.

V004

Upper blepharoplasty with brassiere suture

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Dermatochalasis is a common condition, usually associated with aging, in which redundant skin of the upper eyelids hangs on to or even below the eyelashes. The increase in the weight of the upper eyelids sometimes interferes with vision, and the excess hooded skin is also often undesirable because it causes a tired or aged appearance or both.

Upper blepharoplasty, one of the most commonly performed plastic surgical procedures, treats



dermatochalasis. Modifications of upper eyelid blepharoplasty address the brow and include both browpepxy and retro-orbicularis oculi fat (ROOF) pad suspension.

Goldberg described a “brassiere suture” technique in which the orbicularis oculi is sutured to the superior lateral orbital rim periosteum(Increased tarsal platform show (TPS) and decreased brow fat span (BFS) are associated with favorable results in women undergoing cosmetic blepharoplasty.

The video shows an upper blepharoplasty using the brassiere sutures’ technique to increase TPS and decrease BFS.

Patient received traditional upper blepharoplasty with orbicularis oculi muscle fixation to the periosteum (brassiere sutures) prior to skin closure.

The technique may be useful to provide a more youthful and feminizing appearance in female patients undergoing upper blepharoplasty.

V005

Minimally invasive lacrimal endoscopic surgery for common canalicular obstruction

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Background: To improve a minimally-invasive lacrimal endoscopic surgery (MILES) technique for common canalicular obstructions (CCOs), we devised a high-definition dacryoendoscope (HDD) system, canaliculo-scissors, and a sac compression test (SCT). The function of the SCT was to evaluate the preoperative patency of the sac/duct.

Methods: A total of 61 sides of 58 patients (18 males and 40 females; mean age 69.4± SD 12.2yr) who had a CCO were studied retrospectively. A SCT was performed after coating the nasolacrimal ostium with Scopisol®. The lacrimal sac was then compressed digitally, with spouting from the ostium observed naso-endoscopically. The HDD had 15,000 picture elements. Air (150 hPa) or saline insufflated dacryo-endoscopic incision was made using canaliculo-scissors.

Results: The success rate of MILES after 6-24 mth was 95.2% (40/42). MILES resulted in no osseous cutting in 68.8% (42/61) of CCO. In cases with a patent sac/duct, the SCT indicated a positive result in 31/46 sides (67.4%), while in cases with an obstruction of the lacrimal sac/duct, the SCT showed a negative result in 15/15 sides (100%). HDD identified the incision site of CCO as a white avascular patch in 36/42 (85.7%) cases.

Conclusions: The sensitivity of SCT was 67% for preoperative sac-duct patency. MILES had a high success rate and no osseous cutting.

V006

Dacryocystorhinostomy (DCR) stent sleeve fixation

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Silicone stent intubation is commonly performed during DCR although its benefit remains unproven.

Intubation related problems include: corneal irritation from a loose tube, canalicular damage and slitting from a tight tube and difficulties with tube removal.

The use of a silicone sleeve to stabilize the tube ends intranasally instead of a knot or suture prevents all three of the above problems by allowing precise adjustment and easy removal via the medial canthus. This video demonstrates the technique of sleeve placement, adjustment and particularly the ease of stent removal.



Method:

1. A short 2-3 mm length of sleeve is cut, wetted to help it slide and slipped over one of the O'Donoughue tube bodkins.
 2. The other bodkin is then also passed through the sleeve in the opposite direction.
 3. The sleeve is slid up into the nose.
 4. The stent tubing is tightened by pushing the sleeve higher up the nose or loosened by pulling on the tube externally at the medial canthus.
 5. When gently pulled laterally a correctly tensioned tube can be displaced towards, but not as far as the medial corneoscleral limbus. This allows normal blinking unrestricted by the presence of the tube.
 6. The tube is removed by grasping it with Moorfields forceps at the medial canthus and simply pulling it out. The silicone sleeve falls out spontaneously from the nose.
 7. Neither nasal inspection nor endoscopy are required during tube removal.
- Silicone sleeve fixation of a DCR tube is simple to perform, easy to adjust to the correct tension and the tube can be removed quickly and easily every time with only a pair of non-toothed forceps.

V007

Lacrimal canalicular bypass surgery using a diode laser

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Objective: Lacrimal canalicular bypass with the Lester Jones tube is frequently used in the context of canalicular scarring, aplasia of the lacrimal system or after tumor excisions.

We describe a novel approach using minimally invasive surgery.

Methods: We describe a case report of a patient after tumor surgery of the medial canthus with a complete excision of the canalicular system.

After caruncular incision and dissection of the tissue near the nasal bone a diode laser fiber (diameter 400 µm; power up to 9 Watt) was placed at the bone wall of the lacrimal sac region. Under nasal endoscopic control a bony ostium was created with several laser spots. After enlarging the ostium with the laser and the microdrill, the Lester Jones stoploss tube could be placed as usual.

Results: Positioning of the Lester Jones stoploss tube was possible without problems. Less bleeding was seen, so no nasal tamponade was needed and therefore a quick recovery of the patient could be seen.

Conclusion: The described technique has several advantages. There is less bleeding and in this way even patients taking anticoagulant medication possible can be treated, without interrupting medication. A skin incision is not necessary and the recovery of the patients is very short with direct consequences on patient satisfaction.

V008

Powered endoscopic dacryocystorhinostomy with circumostial Mitomycin C injection, simultaneous limited septoplasty and the use of tissue glue

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Objective: To demonstrate a combined technique of transnasal endoscopic dacryocystorhinostomy with simultaneous limited septoplasty, circumostial Mitomycin C injection and the use of tissue glue in a case of nasolacrimal duct obstruction and septal deviation.

Methods: A patient with significant septal deviation obscuring the middle turbinate was selected for the demonstration. Limited endoscopic septoplasty followed by transnasal powered endoscopic dacryocystorhinostomy with circumostial Mitomycin C injection and the use of tissue glue were performed. Follow-up time was 2 years.

Results: Patient remained asymptomatic within the observation time. Functional and anatomical success was achieved.



Conclusion: Transnasal endoscopic dacryocystorhinostomy combined with limited endoscopic septoplasty, circumostial Mitomycin C injection and the use of tissue glue may be a solution for cases of nasolacrimal obstruction complicated by significant septal deviation.

V009

Orbital decompression simplified on a human skull

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Orbital decompression is the commonly performed surgical procedure for the management of thyroid eye disease. The variations in orbital anatomy, the poor visualization during surgery, and the tight orbit make learning of orbital decompression difficult for a novice surgeon.

This video demonstrates the basic steps of 3-wall orbital decompression on a human skull, mimicking all the surgical steps intermixed with relevant radiological findings on computed tomography. This aids in better understanding of the anatomic landmarks in orbital decompression surgery.

V010

A needle in time saves nine: emergency needle decompression for orbital emphysema

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Orbital emphysema is a medical emergency and its immediate diagnosis and management is critical to prevent sight threatening complications. A 43-year-old gentleman presented with a history of trauma to the right eye with a fist, following which he was fine. Subsequently, he developed sudden onset diminution of vision associated with proptosis, pain and limitation of ocular movements, following an episode of blowing his nose an hour later. Crepitations were present on palpation around the periocular area. A non contrast computed tomography (NCCT) scan revealed a large air pocket in the superior orbital compartment. Direct needle drainage was performed using a 20-gauge needle attached to a saline-filled syringe with the plunger removed. Rapid release of air bubbles with prompt alleviation of pressure symptoms was observed. We describe a minimally invasive procedure that can be safely performed by an emergency physician, once the orbital anatomy has been defined by CT scanning.

V011

Three wall orbital surgery for late enophthalmos

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A male patient applied with complaints shrunken left orbit after blunt trauma of 4 months. He had diplopia and ptosis. Visual acuity was 1.0 OD, and 0.8 OS. MRD measured 4mm OD, 2mm OS, levator functions were 16mm OD, 10mm OS, and Hertel measurements were 15/10mm revealing 5mm enophthalmos in the left side. His extraocular motility was full OD, and limited in the left eye by -2 upgaze, -2 downgaze and -2 abduction. The frontal branch of the facial nerve was paralysed, but the other branches were intact. Orbital CT showed fractures in all 4 walls of the orbita with a significantly enlarged orbital space. The patient was taken to the operating room and intraoperative graded customized 3 wall augmentation with Medpor implants was undertaken. Postoperatively enophthalmos and diplopia totally resolved.



V012

Changing in a GIF: innovative and effective before-and-after photograph presentation techniques

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Background: Before-and-after images are an important aspect of aesthetic procedure counseling, yet they often require patients to detect subtle changes in facial appearance. This study compares two types of static photography with alternation flicker (in which two different images are superimposed and alternated) to determine which presentation style improves perception of post-procedure changes.

Methods: In this prospective study, participants viewed images of patients who had or had not undergone upper eyelid blepharoptosis repair or blepharoplasty (called “change” and “no-change” images, respectively). These images were randomized to be presented as either side-by-side, up-and-down, or alternation flicker. Participants reported the presence or lack of change in the appearance of the upper eyelids. Paired t-tests were used to compare response times and change detection rates between individual-level pairs of presentation modes.

Results: Of 299 recruited patients, 286 completed the study. Change detection trended towards increased sensitivity for alternation flicker over static images, but this was only statistically significant for patients less than 45 years old. Participants were also able to detect “no-change” with faster response times using alternation flicker over static images. Change detection rates did not differ significantly between the two static layouts (side-by-side and up-and down).

Conclusions: Aesthetics counseling with excellent before-and-after images can improve patient understanding and expectations. As the average age of prospective aesthetics patients decreases, it may be advantageous to appeal to this age group by using alternation flicker, which appears to enhance change detection. If Alternatively, when using static photography, all layouts are equally effective.

Digital Poster

P002

Assesment of long term results of nonsurgical blepharoplasty with plasma exeresis

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Background: Plasma exeresis (PE) is an innovative, minimally invasive technique that allows the removal of excessive skin in blepharoplasty. The aim our study is to evaluate long-term results of nonsurgical blepharoplasty with PE.

Methods: Fifty patients who underwent nonsurgical upper blepharoplasty were included. We used plasma energy as a noninvasive upper blepharoplasty. The mean age of the patients was 32.9 years (range 24 to 54 years). Mean postoperative follow-up was 18 months. Patients records were assessed at initial, post op in first week, first month, sixth month, first year and eighteenth month. All patients underwent full ophthalmic examination and patient satisfaction assessment with quality of life survey (QLS).

Results: Mean QLS records at initial, first week, first month, sixth month, first year, eighteenth month visits were 27.3 ± 3.15 , 20.84 ± 1.69 , 32.74 ± 1.61 , 42.5 ± 3.17 , 44.94 ± 3.05 and 44.85 ± 3.20 , respectively.

Conclusion: PE is an alternative, effective method in blepharoplasty. This technique can be applied in a short time, under outpatient conditions using topical anesthesia. PE has high patient satisfaction according to QLS.



P003

Documentation, evidence and forensic medicine considerations in photography in ocular plastic and aesthetic surgery

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Objectives: Photography is important in plastic and aesthetic ocular surgery. It gives preoperative and postoperative documentation of the palpebral and periorbital skin and tissue fullness. Due to the progress in imaging/photography technology, taking photos seem to be easier.

Methods: Photography techniques have evolved in a way that even with a cell phone one can take "good" photos. On the other hand new technologies changed the images in a way, that even with human eye not perceived details can be seen on these photos. And faults (wrong colours, disturbing points/areas, existing/nonexisting shadows, 3D problems, etc.) can be/are eliminated automatically, also.

Results: The imaging / photography technologies today are better than in the past, but they don't show always the truth/reality. In ocular plastic and aesthetic surgery with photographic techniques it should be shown only as much as an human eye can see. The image should be technically perfect (reality), but not artistically perfect. Otherwise these photographs of patients cannot be used as documents or proofs medically and forensically.

Conclusions: For having adequate patient photos in ocular plastic and aesthetic surgery, the photos should be technically right, but NOT artistically perfect. Otherwise there may be forensic problems, also.

P004

Cyanoacrylate versus suture in superior blepharoplasty

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Objective: To evaluate the aesthetic result, duration of procedure and subjective symptoms of N-butyl-cyanoacrylate in closure of surgical incisions of superior blepharoplasty, compared to a continuous silk suture.

Methods: We conducted a prospective study of sequential cases of dermatochalasis that underwent bilateral superior blepharoplasty, from November 2017 until April 2019. Standard surgical procedure was performed by two ophthalmologists. At the end of the procedure, one eye was randomly selected for cyanoacrylate application, and a 6/0 silk continuous suture was used in the fellow eye. Time of the incision closure was registered. No topical medication was prescribed during the first week. Follow-up visits took place upon the first week and after 3 and 6 months. Photographic record and patient and observer scar assessment scale (PSOAS) questionnaires were obtained at each follow-up visit. Adverse events and complications were registered accordingly. Postoperative photographs were reviewed by a blinded oculoplastic surgeon, who evaluated the results using the Hollander wound scale.

Results: Twenty patients (17 women and 3 men) were included. One patient was treated with systemic and topical antibiotics due to infection of both incisions during the first week. Two patients had foreign body reaction in both incisions. There was no significant difference in the PSOAS and Hollander scale results between the two techniques. Regarding the time of procedure, mean duration was 2'28" with cyanoacrylate and 3'51" with suture.

Conclusion: The two closure techniques appear to be similar in terms of aesthetic results and subjective symptoms. Duration of the procedure was shorter with cyanoacrylate, however it was influenced by the surgeon experience and preferences.



P005

0.01% hypochlorous acid as an alternative facial skin antiseptic: a comparison study

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Background: Time kill studies of hypochlorous acid 0.01% (HA), povidone iodine 5% (PI), chlorhexidine gluconate 4% (CHG), and isopropyl alcohol 70% (IPA) were conducted against common skin microorganisms to determine and compare their in vitro efficacy.

Materials and methods: All antiseptics were tested against methicillin-susceptible *Staphylococcus aureus* (MSSA) and *Staphylococcus epidermidis* (MSSE), methicillin-resistant *S. aureus* (MRSA) and *S. epidermidis* (MRSE), *Candida albicans*, *Corynebacterium species* (*striatum* and *amycolatum*), *Propionibacterium acnes*, *Pseudomonas aeruginosa*, *Streptococcus pyogenes*, *Staphylococcus capitis*, and *Staphylococcus xylosus*.

Results: Methicillin-resistant *S. aureus*: Bactericidal effect was immediate for HA and IPA. For PI and CHG, the effect occurred at 1 and 10 minutes, respectively. Methicillin-resistant *S. epidermidis*: Hypochlorous acid, IPA, and PI had immediate bactericidal effects, whereas CHG required 1 minute. Methicillin-susceptible *Staphylococcus aureus*: All agents had bactericidal effects at 1 minute. *C. species*, *S. pyogenes*, *P. aeruginosa*, and *P. acnes*: All antiseptics demonstrated immediate bactericidal effects. Methicillin-susceptible *Staphylococcus epidermidis* and *S. capitis*: Hypochlorous acid and IPA had immediate effect, whereas PI and CHG required 1 minute. *C. albicans*: Hypochlorous acid, IPA, and PI were immediately bactericidal, whereas CHG required 1 minute. *S. xylosus*: Hypochlorous acid and CHG were immediately bactericidal, whereas IPA and PI required 1 and 2 minutes, respectively.

Conclusion: In vitro studies of HA 0.01% were observed to have equal or more efficacious antiseptic properties compared with IPA, CHG, and PI. These results suggest that HA 0.01% has the potential to be an equivalent, if not superior, alternative for antisepsis before procedures ranging from aesthetic injections to surgery. Preliminary results of the same comparison study on facial skin seem to be supporting this hypothesis. Further studies are also being conducted to determine its efficacy and safety in a clinical setting.

P006

Late migration of temporary and permanent soft tissue fillers in the periocular area

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Background: Complications of periocular dermal fillers, including chronic inflammation, are becoming increasingly recognised, but late migration is rare. We present a case of late migration of Bio-Alcamid hydrophilic gel to the lower lid against gravity, and a case of chronic bilateral upper lid oedema mimicking blepharochalasis syndrome after Juvederm migration from the lateral brows to both upper lids.

Methods: Two interventional case reports with histopathological analysis.

Results:

Case 1: A 62-year-old lady presented with right lower lid swelling and discomfort 8 years after Bio-Alcamid injection to both cheeks. A rubbery mass was palpable with no overlying skin changes. A pale, lobulated, well-circumscribed mass containing turbid gel was excised.

Histology revealed chronic granulomatous inflammation and fibrosis surrounding amorphous basophilic material in keeping with filler migration. There has been no recurrence at 7 years.

Case 2: A 52-year-old lady presented with a 5-year history of bilateral upper lid swelling, starting a few months after Juvederm Ultra injection to her lateral brows. Extensive systemic investigations were normal. Bilateral sequential upper lid blepharoplasty/biopsy was performed.

Histology revealed abundant basophilic mucinous material in the subepithelial tissue/orbicularis and mild patchy lymphocytic infiltration. The basophilic material dissolved with hyaluronidase.

Hyaluronidase was subsequently injected into both upper lids for residual swelling with an excellent outcome.



[Case photographs]

Conclusion: Fillers may migrate, even defying gravity, and present with eyelid swelling/inflammation away from the injection site many years post-injection. A thorough history and awareness of this complication may limit unnecessary investigation.



P007

Biomechanical parameters of eyelid skin in various posttraumatic pathologies: a comparative study

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Objectives: For planning reconstructive operations on the eyelids in the aftermath of trauma it is advisable to know the biomechanical characteristics of eyelids tissues.

Purpose: to study the biomechanical properties of upper and lower eyelid skin in various eyelid posttraumatic pathologies.

Methods: 50 tissue samples of upper eyelid skin of 30 patients and 23 samples of lower eyelid skin of 17 patients obtained during surgical treatment of ptosis and consequences of trauma, including scar deformation, lagophthalmos, ectropion and entropion were examined. Standard size samples (4.0 mm wide) were cut from the removed tissue. Biomechanical tests were performed using an Autograph AGS-H device (Shimadzu, Japan). After measuring the thickness using a PosiTector 6000 (DeFelsko, USA), the samples were placed between the clamps of the device and stretched. The stress-strain dependencies obtained in the process of stretching (at a rate of 1 mm/min) until ruptured were continuously recorded in digital and graphic mode by an Autograph AGS-H computer. Each sample was measured for the rupturing load P (N), tensile strength σ (MPa), maximal strain ϵ (%) and elasticity modulus E (MPa).

Results: Post-traumatic conditions in patients aged 30.6 ± 3.9 (scarring eyelid deformations) are characterised by low levels of E (3.1 ± 0.5 MPa) and σ (1.7 ± 0.2 MPa), which show an additional significant fall ($p < 0.01$) when the scarrings are combined with lagophthalmos (respectively, 1.4 ± 0.5 MPa and 0.71 ± 0.30 MPa) caused not only by scarring but by skin deficiency. Scarring deformations of lower eyelids also bring about a decrease of elasticity modulus ($E = 3.2 \pm 0.6$ MPa).

Conclusions: Biomechanical properties of scarred skin of the upper and lower eyelids are different: the skin in the upper eyelid is characterized by less stiffness. When combined with lagophthalmos scars violations of the biomechanical properties of the skin are more pronounced.

P008

Periocular necrotising fasciitis management: case series

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Background: Necrotising fasciitis is a serious bacterial infection which spreads rapidly along fascial planes with high morbidity and mortality. The reported incidence is 0.24 per 1,000,000 per annum in the UK. We report the increasing incidence of periocular necrotising fasciitis at the Manchester Royal Eye Hospital (MREH) in the last 12 months describing clinical findings and management in all 6 cases.

Methods: This is a retrospective series of necrotising fasciitis presenting to MREH from February 2018 to February 2019. The suspected clinical diagnosis was confirmed by histopathology in all 6 cases. We report patient demographics, risk factors, management and outcomes.

Results: The mean age was 43.2 years (SD 16.3) with 5 males and 1 female. Immune compromise was the most obvious pre-disposing factor in the setting of excess alcohol intake, recreational drug use, homelessness, malnutrition, poor self-care, mental health illness, diabetes and pharmacological immunosuppression. The mean number of procedures was 4.3 (SD 1.9) including debridement with some patients still undergoing complex reconstructions. Group A β haemolytic streptococcus was identified in 5 cases and staphylococcus in 1. All patients suffered secondary facial nerve palsy. There were no mortalities with vision loss in 1 patient. Reconstructive techniques will be illustratively described.

Conclusions: The incidence of periocular necrotizing fasciitis at MREH is comparatively high. We report good outcomes following early recognition in susceptible immune compromised patients with prompt ITU care and debridement followed by later reconstruction in collaboration with maxilla-facial surgery. We have designed a local management guideline based on our year's experience to improve patient care.



P009

Surgical outcome of a congenital divided nevus in a six-year-old child: a case report

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Background: Kissing nevus is a rare form of congenital melanocytic nevus, occurring on the upper and lower eyelids. It is rarely associated with malignant transformation, but psychological distress can be present, usually related to aesthetical aspects. This is a case of a six-year-old girl submitted to resection of a dark brown hairy lesion involving the right upper and lower eyelids.

Methods: After the nevus excision, a local advancement flap and a full thickness postauricular skin graft were used to close the skin defect and allow eyelid reconstruction. A small rim of nevus at the lash line was intentionally left to preserve the eyelashes, which was possible as the recurrence rate is very low. Margins were closed without tension using mononylon 6-0 simple sutures. Postoperatively, the patient was given a topical ointment containing chloramphenicol and retinol to apply to the incision for two weeks, after which the stitches were removed. A dexamethasone ointment was prescribed for the following fifteen days. After one month, silicone gel was used twice to avoid hypertrophic scarring.

Results: Patient and parents were satisfied with the aesthetical result. The lesion measured 3.3x2.4 cm, being classified as medium size according to the congenital nevus classification. Histopathological analysis revealed a congenital melanocytic compound nevus. Scar management resulted in a pinkish, flat margin of the reconstruction site. Advanced flap and harvested graft presented a similar colour comparing to the surrounding skin, although a light brown pigmented area appeared at the lateral canthus, caused by a localized blunt trauma which occurred three weeks after surgery.

Conclusion: Kissing nevus is a rare congenital abnormality and its management remains controversial. When the treatment method is individualized, better results can be achieved in colour and texture matching, preserved eyelid function, absence of eyelash trauma, possibility of one-step surgery and minimal donor site damage.

P010

Slit lamp videography of the face for documentation in oculoplasty

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Background: The slit lamp's field of view comprises slightly more than 3 x 2 cm.

This is by far not enough to document oculoplastic findings. Therefore other camera systems, sometimes smartphones are commonly used for imaging.

Methods: The optical principle of the slit lamp is the telescopic lens.

By holding a concave lens of -6 to -8 D in front of the slit lamp's objective its focal plane (usually at 10cm) can easily be shifted to 25-50 cm. If the patient reclines back to this distance the face or parts of it will be in sharp focus, but the area visible through the slit lamp ocular has increased by 25 fold ! Using a recentrating prism on the slit lamp's diffusor the slit light can be used to illuminate the patient's face.

Results: We have been using this method for nearly 15 years and will give evidence for its usefulness to document nearly the whole spectrum of oculoplastic findings: face deformities, lid diseases and even squint.

Conclusions: While professional photographic departments offer high resolution imaging our method focusses on the principal findings of facial abnormality. Concerning the work flow videography of the face can become part of a standard slit lamp examination which is associated by the patient as specialized ophthalmological care. It would be worthwhile if slit lamp manufacturers were willing to extend the field of the instrument's application as presented here.



P012

A rare case of bilateral conjunctival Kaposi's sarcoma in an HIV-negative patient

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Background: Kaposi's sarcoma (KS) is a rare multicentric vascular neoplasm. It can appear in four different forms: classic, endemic, HIV-related and post-transplant form. We present an uncommon case of HIV-negative patient with skin KS involving the conjunctiva of both eyes.

Methods: An 83-years old white man referred to our department with a 3 months history of rapid growing conjunctival nodal lesions in both eyes, causing ectropion. Slit-lamp examination showed red nodular lesions (respectively 3 in right eye and 2 in left eye) on the infero-medial conjunctival fornix, causing bleeding and itching. Patient denied previous transplant history or intravenous drug abuse. Both Western Blot and ELISA tests for HIV-1/2 were negative, while HCV-RNA was positive. Further skin examination showed multiple and not painful lesions on face, chest and both legs.

Results: The three conjunctival nodular lesions of right eye were surgically removed. Histological features were typical of nodular stage of KS. Skin KS lesions were treated with cryotherapy and vinblastine in Dermatology Department. Due to recurrence of skin lesions and persistence of left eye conjunctival lesions, patient was assessed by the oncologist to start chemotherapy with doxorubicin. At 3 months follow no recurrent lesions on the right eye were detected and both left eye conjunctival nodular lesions disappeared. At 9 months follow-up no recurrent neither new lesions were identified. No HIV-seroconversion was detected.

Conclusions: Ocular involvement in KS is extremely rare, especially in HIV-negative patients. In this case, we performed surgical excision to limit KS growth and to prevent a rapid spread to the eye as well as orbital involvement. Chemotherapy with doxorubicin was administered due to recurrence of skin lesions, allowing also the disappearance of left conjunctival lesions. In this patient, chemotherapy resulted to be as effective as surgery.

P013

Merkel Cell Carcinoma of the eyelid

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Merkel Cell Carcinoma (MCC) is a rare highly malignant neuroendocrine eyelid tumour. The incidence is higher in the elderly, equal between men and women and unreported in people of afro-caribbean descent. Despite wide excision, local recurrences are frequent (mostly in men) and lymphatic distant metastases have a survival period of 16 - 23 months. The aim of this poster is to raise awareness of MCC.

We describe three MCC cases treated at East Tallinn Central Hospital Eye Clinic:

Case 1: Woman (62y) presented with a painless fast growing mass since 6 weeks on her left upper eyelid causing mechanical blepharoptosis (figure 1.left). A radical excision and pedunculated skin graft from the ipsilateral lower eyelid was performed.

Case 2: Woman (71y) was referred due to a painless reddish tumour at her left lower eyelid, since 6 weeks (figure 1.right). She underwent wide excision and lower lid transpositional flap from the temporal side.

Case 3: Woman (82y) initially treated by a general surgeon due to a small tumour, consulted an ophthalmologist and an oncologist after recurrence (figure 1. down). After excluding distant tumour spread, a wide excision and free skin transplantation (inner upper arm) was performed. Due to thin MMC free margins (3 mm) radiotherapy followed.

All patients were female with fast growing, painless, histologically confirmed MCC. A radical excision or combined surgical and radiotherapeutic approach was chosen. Due to its aggressiveness a 5 mm tumour-free margin is recommended. Some surgeons reserve radiotherapy for cases of recurrences or regional lymph node spread.



Case 1. 62-year-old woman

Case 2. 71-year-old



Case 3. 82-year-old woman

[figure 1. Case 1. (left), Case 2. (right), Case 3. (down)]



P014

Acquired periorbital hemangioma: a largest case series

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Background: Periorbital acquired hemangiomas are rare entities. The reason that lies beneath this lesions has unknown. In this study our aim was to present largest acquired hemangioma case series.

Methods: Charts of the patients that referred to Uludag University, Department of Ophthalmology between August 2017 and April 2019 were retrospectively reviewed. Patients that were diagnosed as acquired hemangioma were included to the study. Age, sex, predisposing factor, pathology results were noted.

Results: Nine patient were identified (5 female, 4 male). Age range was between 13 and 58. Predisposing factor was trauma in 2 patients, pregnancy in 1, and adolescent age in 2. There was no remarkable history in 4 patients. Eight patients were complaining about this lesions at the time of examination. Surgical excision and pathological diagnosis were performed in 3 patients. Rest of the patients refused the treatments.

Conclusions: Acquired periorbital hemangiomas are unusual lesions. About half of the patients the predisposing cause of hemangiomas was revealed. Acquired periorbital hemangiomas can effect both sexes at wide age range. Best of our knowledge this is the largest periorbital acquired hemangioma case series.

P015

A very rare cause of ptosis: pachydermoperiostosis

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A 32-year-old Syrian male presented to the outpatient clinic with complaints difficulty in opening both eyes and ocular discharge. On presentation, his facial skin was greasy and the forehead and scalp were heavily thickened with wrinkles. His hands and feet were enlarged with distal clubbing . Visual acuity was 20/20 in both eyes. His bilateral eyelids were massively thickened and ectropic. The upper lids were ptotic with a margin-reflex distance of -1/-1 mm and the levator function was very poor (0 mm) on both sides. He therefore opened his eyes using predominantly the frontal muscles . The eyelids could be readily everted, demonstrating diffuse papillary conjunctival reaction. Color vision, ocular movements, and intraocular examination were normal. Systemic examination was significant for furrows on his forehead and scalp, coarse facial features, and enlarged hands and feet with clubbing of the fingers and toes. Radiographic imaging of the long bones demonstrated periostosis, and MRI is normal. These abnormalities were not in children and adolescents had been increasing over time. Pituitary and thyroid hormone levels were normal. The patient was diagnosed with pachydermoperiostosis (Touraine-Solente-Gole Sendromu) .First of all intense artificial tears, corticosteroids and cyclosporine drops were initiated for tarsal conjunctival hyperemia and papillary reaction. In this case, frontal suspension was not planned as the etiology of ptosis due to PCP properties, because it was hypertrophic upper eyelid skin and tars. We performed a staged approach. A bilateral upper eyelid wedge resection, followed by tarsektomi and external levator advancement for ptosis repair was performed with good symptom relief, eyelid position and contour. Pachidermoperiosteosis, a disease with rare mesenchymal origin, can be mixed with acromegaly by its morphological appearance. Pakidermoperiosteosis should be kept in mind especially in patients with coarse facial appearance and clubbing with pitosis and floppy eyelid syndrome



P016

An exceptional cause of bleeding in an eyelid surgery

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We present a case of a 60-year-old man who complained of epiphora.

As a relevant medical history, the patient had Multiple Myeloma and was transplanted with autologous bone marrow.

On examination, he presented significant hyperlaxity of the lower eyelid with a scleral show of 4 mm and lower conjunctivochalasis in both eyes.

It was decided to perform a lower conjunctival resection and a lateral tarsal strip of the left lower eyelid.

The surgery day, the patient presented minor periorbital purpuric lesions in both eyes.

During surgery, the patient presented a continuous, abundant and difficult to control bleeding in the conjunctiva and skin. Because of that, a partial conjunctival resection was performed and it was decided to close the skin incision without completing the surgery. The patient did not take any antiplatelet agents or anticoagulants and his previous coagulation studies were normal.

The day after the intervention, the patient presented unexpected periorbital ecchymosis.

The Dermatology Service was consulted and a periorbital skin biopsy was performed to discuss senile purpura vs amyloidosis. The results confirmed deposits of amyloid in the dermis.

Raccoon eyes sign is caused by a periorbital deposit of the perivascular amyloid, which creates a greater fragility of the vessels with the formation of spontaneous lesions or by Valsalva maneuvers, cough or sneezing.

Systemic amyloidosis is a rare disease, with a wide variety of clinical manifestations, including periorbital purpura skin lesions as our patient had.

Early diagnosis is essential as it can be related to tumor processes such as Multiple Myeloma and in our case could have explained excessive bleeding during our surgery.

P017

Sebaceous gland carcinoma of upper eyelid. Resection and reconstruction using Cutler-Beard procedure

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Introduction: Sebaceous gland carcinoma are very malignancies and for this reason are challenge for diagnoses and treatment. Our purpose is to present a case report with SGC which is the third most common eyelid malignancy after BCC and SCC.

Methods: Records of a patient in UHC with eyelid mass complaints, diagnosed as sebaceous gland carcinoma according to histopathological findings.

Result: The patient was female, 76 years old in follow up actually. Total excision biopsy was applied and then Cutler-Beard full thickness reconstruction was done.

Conclusion: The purpose of this case is to highlight the rarity of the sebaceous gland carcinoma. Is very important to do early diagnosis and to be alert to not misdiagnosed.



P018

Retractional ectropion because of skin disorder

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Background: I will show how reactional ectropion can be solved with elongation of lower eyelid with free skin transplant from upper eyelid.

Method: A younger woman with skin disorder had mild unilateral ectropion that was treated with LTS and mid face-lift. And another patient with severe scleroderma had worse retractional ectropion that can only be treated with additional skin graft. I took free skin graft from upper blepharoplasty.

Results: With retractional ectropion, we have to assure appropriate anterior lamella length. This can be achieved with shortenage of the orbicularis muscle like it is with mid face lift where orbicularis muscle is sutured to orbital wall. In severe cases, we have to add additional skin with grafts or flaps, like with blepharoplasty graft.

Conclusions: Depending on the severity of the disease, we can choose appropriate technique. With combining both, we can get good and lasting result.

P019

Tarsal buckling after ptosis repair solved with upper lid anterior marginal rotation

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Background: Tarsal buckling is a very rare complication after ptosis repair. This is relevant in very thin tarsus which is a well observed finding but infrequently commented on. If the tarsus is thin, then the upper half of the tarsus rotates posteriorly, buckles at the centre and ultimately becomes inverted resulting in entropion. We present two cases of tarsal buckling after ptosis repair, solved with anterior marginal rotation surgery.

Methods: A 9-year-old male underwent anterior aponeurosis resection surgery for his left congenital ptosis, and a 35 year-old male underwent right frontalis sling open sky pentagone silicone rode. Sutures were performed in the very upper margin of the tarsus. Both patients achieved good lid height and contour but 1 month subsequently developed entropion which resulted in a persistent corneal epithelial defect. This was initially managed conservatively with a bandage contact lens and frequent topical lubricants. One week later the patients underwent further surgery to correct the tarsal buckling. Anterior marginal rotation with everting sutures was done. Lid Crease incisión, a pretarsal skin muscle flap is raised exposing the whole tarsal plate to the level of the lash roots. The lid is everted, a curved incision parallel to the lid margin is performed through the full thickness of the tarsus 3 mm posteriorly to the margin. Three double-armed 6-0 polyglactin sutures were passed through half thickness of the distal cut edge of tarsus and attached to the orbicularis near the lash line.

Results: At the 6 months post anterior marginal rotation both patients upper lids were in a correct position.

Conclusion: Our cases highlights the importance of taking special care during ptosis surgery, in patients with very thin tarsus. Significant thinning of the tarsus may cause inversion of the tarsus and development of an entropion due to tarsal buckling.



P020

Upper lid entropion following ptosis correction - surgical challenges

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Background: To report two cases of rare complication of entropion following ptosis surgery and to discuss the challenges in the management

Methods: Case Series

Results:

Case1: A 53 yr old male had undergone Transconjunctival superior orbitotomy for intraconal mass and he developed total ptosis with poor levator action and elevation restriction .For the ptosis he underwent frontalis muscle transfer through subbrow incision.On 1 month post operatively patient presented with upper lid entropion with pseudotrichiasis causing punctate epitheliopathy.The lid cannot be everted to see the tarsal surface.He underwent entropion correction .Intraoperatively frontalis muscle strip was short and found to be attached to tarsus causing tarsal plate inversion. Z plasty tried in frontalis muscle with no relief. So frontalis muscle was released from tarsal plate along with transverse blepharotomy and marginal rotation of tarsus. He was symptom free with 3 yrs follow up with total ptosis.

Case 2: A 34 yr old male had undergone LPS resection for congenital ptosis following which he developed upper lid entropion. He underwent entropion correction by reinsertion of levator to superior one third of tarsus along with transverse blepharotomy and marginal rotation. After 1 yr he was diagnosed with thyroid ophthalmopathy with lid retraction in both eyes . He is symptom free with 3 yrs follow up .

Conclusions: In entropion correction following ptosis surgery , the ptosis correction factor either Frontalis or levator has to be addressed rather than the correction of entropion alone. Unusual complications need evaluation for systemic diseases like dysthyroidism which can affect the outcome of eyelid surgeries involving muscle.This series highlights the importance of special care that has to be taken while we attach the muscle to the tarsal plate to prevent untoward complications and multiple surgical interventions.

P022

Vismodegib a promising treatment for advanced basal cell carcinomas. A case report

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We present a case of a 89 year old woman with advanced recidivant basal cell carcinoma.

A free border BBC affecting 75 % of the lower right eyelid was resected 8 years ago and reconstructed with a Hughes Flap. The patient decided not to do any follow-up and reconsulted 5 years later, presenting a lobulated mass affecting the lateral canthus of the same eye. Even though she was already seriously affected, she decided to refuse therapy.

Five months ago, 8 years after the first surgery, the patient was referred to our Adnexal Unit presenting an important polylobulated-ulcerated mass affecting both upper and lower eyelids and the lateral canthus, infiltrating the preseptal and part of the external extraconal space.

Due to the disability to perform any surgery without leaving the patient with disfigured sequelae, and denial of the patient to receive any type of surgical or radiotherapy treatment, we decided to start oral vismodegib 150 mg/d.

After 3 weeks of therapy we witnessed an important shrinkage of the mass and 5 months later the patient is still on therapy, but in remission. At present, there is evidence of simblefaron with no diplopia, which was already described 8 years ago after the first surgery, and a 5 mm scleral show due to cicatricial changes. The clousure of the eye is complete, there is disturbance of the tear film and a cataract, with VA of 0.7 in both eyes. During treatment, the patient has only referred slight disturbance in taste and occasionally cramps. Vismodegib is a selective Hedgehog-protein pathway inhibitor and a promising treatment for patients with advanced basal cell carcinomas. Once the tumor has shrink and the patient is in remission, it is important to make sure there are no malignant cells left, prior to perform any surgical treatment or debulking.



P023

Lower eyelid entropion following excision of an odontogenic keratocyst

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Lower eyelid entropion is usually of involutional or cicatricial nature. We report a thirteen year old boy who developed lower eyelid entropion following surgical excision of an odontogenic keratocyst of the maxilla. The excision of the keratocyst led to a large iatrogenic orbital floor defect. The mechanism of entropion here was speculated to be due to excessive traction of the lower lid retractors, secondary to absent orbital floor and globe dystopia. While the maxillofacial surgeons planned to observe the maxilla for recurrence, the entropion led to a sterile corneal infiltrate and required surgical intervention specific to the proposed etiology.

P024

Review of literature: evaluation ptosis levator surgery by anterior and posterior approach

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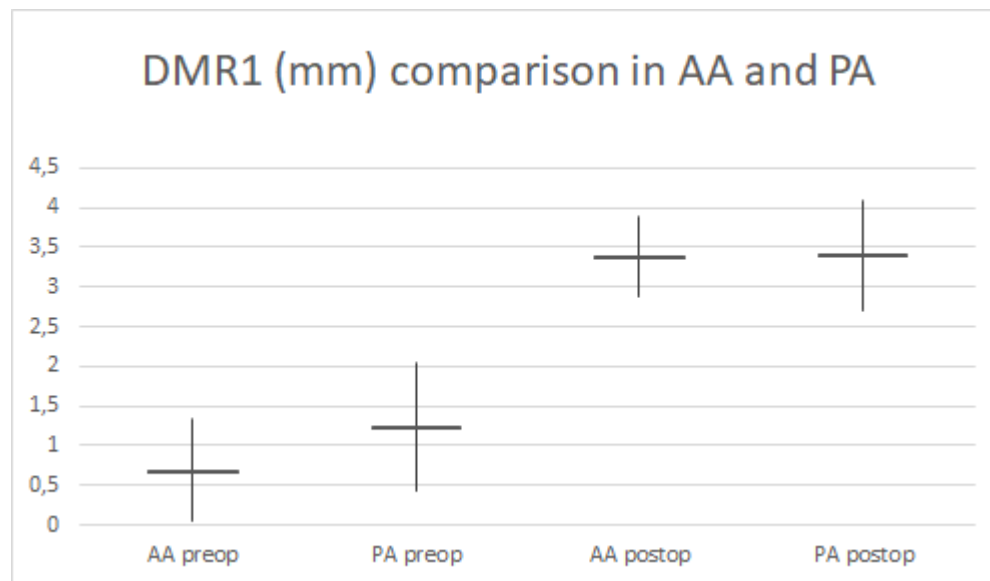
Introduction: Eyelid ptosis is the condition when margin of the upper eyelid is displaced inferiorly, in the primary position of gaze. Posterior levator reinsertion is a relatively new technique and the main advantages are contour of the eyelid margin and no apparent scarring. Because of many surgical techniques, their advantages and disadvantages are always discussed among oculoplastic surgeons.

Objective: To compare surgical outcomes of posterior levator versus anterior approach.

Methods: In order to evaluate the surgical approach of levator reinsertion in ptosis correction, we searched database Bireme / medline and Pubmed , using keywords "ptosis", "white line", "levator", "insertion ", and "advancement ". 176 articles were found, out of which only 6 described the reffered techniques for analysis.

Results: 360 eyelid ptosis correction surgeries were performed. Surgical success was assessed according to symmetry (acceptable difference up to 1mm), improvement of DMR1 2 to 4.5mm and contour. Success rate was of 88.9% in posterior approach (PA) and 80.9% in anterior approach (AA). As a result, the chi-square test was not statistically significant comparing the success of these two techniques ($p = 0.643$). Mean preoperative DMR1 in the PA was 1.24 ± 0.81 and the AA was 0.69 ± 0.65 . Mean DMR1 postoperative measurements in the PA was 3.40 ± 0.69 , and the AA was 3.38 ± 0.5 .

Conclusion: Levator reinsertion is a successful technique and there is no statistically significant difference between either posterior or anterior approaches. Therefore, it is a surgeon decision to the most appropriate indication for the patient.



[DMR1 (mm) comparison in AA and PA in preoperative and post operative]

P025

Reconstruction of large upper eyelid defects with bilobed flap and tarsoconjunctival graft

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Background: To describe the reconstruction of large upper eyelid defects with bilobed flap and tarsoconjunctival graft.

Methods: The medical records of 5 patients who underwent upper eyelid tumor excision and eyelid reconstruction with a bilobed flap were reviewed. Various parameters, including demographic and clinical data, defect diameter, primary defect closure, complications, and follow-up time, were recorded. After tumor excision, the posterior lamella was reconstructed with an autologous tarsoconjunctival graft and anterior lamella with a superiorly-based lateral bilobed flap.

Results: All 5 patients (3 female, 2 male; age: 42-87 years) had malignant epidermal (n=2) or adnexal (n=3) tumors. Mean excisional defect diameter was between 18.5 and 25 mm. In all patients, the anterior lamellar defect was closed primarily with a bilobed flap. After surgery, a total of 4 minor complications occurred in 3 patients. One patient required orbital exenteration because of tumor recurrence. In the other patients, the functional and aesthetic results were satisfactory. Follow-up time ranged from 4 to 102 months.

Conclusions: Lateral periorbital bilobed flap can be a good alternative for the single-stage reconstruction of large upper eyelid defects.



P026

Intralesional corticosteroids for adult eyelid and orbital xanthogranuloma.

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Purpose: To describe the clinical findings in a patient who was diagnosed with adult-onset asthma and periocular xanthogranuloma and treated successfully by intralesional corticosteroids.

Material and methods: Case Report

Results: A 40-year-old woman presented with bilateral swollen eyelids that had gradually worsened over 5 years. She was diagnosed with asthma 5 years previously treated by inhaled bronchodilator. Initial examination revealed bilateral yellow-orange, elevated, indurated, and nonulcerated xanthomatous plaque at the upper eyelids. Best corrected visual acuity was 20/20 in both eyes and slit lamp examination was unremarkable. Physical examination revealed mandibular mass lesion diagnosed by cervical ultrasonography as salivary gland enlargement and mandibular lymphadenopathy. The laboratory data showed high level of IgG monoclonal. Periocular biopsy samples showed xanthoma cells (mononucleated foamy histiocytes) and Touton giant cells. The patient received intralesional triamcinolone acetonide with a local control. No complications were noted.

Conclusions: Adult orbital xanthogranulomatous disease comprises a heterogeneous group of rare orbital and ocular adnexal disorders. They have common histological characteristics, such as the presence of foamy histiocytes (xanthoma cells) and Touton giant cells. Recognition of these lesions are important owing to the occasionally clinically severe systemic associations. AAPOX is also associated with unique systemic disorders, including adult-onset asthma, systemic lymphadenopathy, salivary gland enlargement and elevated serum levels of IgG. Treatment options vary with no current consensus as to the most optimum therapeutic course. Intralesional corticosteroids have been successful in controlling the signs and symptoms of adult-onset xanthogranulomatous disease. Surgery was successful but demonstrated recurrence. The use of methotrexate has been proposed to treat refractory cases or as a potential corticosteroid-sparing therapy.

Intralesional corticosteroids are an effective and safe treatment for eyelid adult xanthogranuloma.

P027

Untrivial ptosis in the practice of an oculoplastic surgeon. Features of the clinical presentation and management

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The aim of this study was to investigate the features of the clinical presentation and treatment in patients with acquired ptosis of the upper eyelid due to non-standard etiopathogenetic factors.

Methods: 45 patients with acquired ptosis were examined. In addition to the conventional ophthalmologic examination were performed ultrasound biomicroscopy of eyelid structures, CT of orbit, histopathological examination. Voluntary informed consents were obtained followed by the upper eyelid ptosis surgeries.

Results: During workup there were found some features like bulging of tissue in projection of Muller's muscle (mM) onto levator aponeurosis in 41 patients. UBM showed the thickening of conjunctiva-mM-levator aponeurosis complex comparing to the intact eye. Morphological pattern of smooth muscle steatosis was observed in microscope slides with hematoxylin and eosin staining and using the Van-Gieson and Mallory methods. 2 patients there were discovered areas with dense lumpy masses. UBM visualized a heterogeneous hyperechoic structure above the tarsal plate. The histopathological patterns with hematoxylin and eosin and Congo red staining corresponded to local demarcated stromal-vascular dysproteinosis with the aggregation of an abnormal amyloid protein.

In other 2 cases of ptosis which had an onset promptly after endovitreous surgery had been performed, pronounced protrusion of the eyelid surface and local palpable masses were observed during pre-op. UBM



identified anechoic structures with a hyperechoic rim. CT of orbit was carried out in these patients resulting in image with multiple hyperreflective homogeneous rounded entities of various diameters. Post-op of all patients from 1 up to 3 years.

Conclusion: There are some rare cases of ptosis caused by nontrivial etiology. Etiopathogenetic factor is the determining core of management and follow-up of such cases in which the main aim is minimizing the risk of recurrence in the early and late post-op. Sticking to this strategy during the surgery provides a great functional and cosmetic outcome.

P028

Upper eyelid retraction in the anophthalmic socket: an uncommon presentation

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Objective: Upper eyelid retraction was first described by Zolli in 1983 as a complication of long-standing anophthalmia of several decades. Nowadays, it is clinically recognized as a possible component of post-enucleation socket syndrome (PESS). However, unlike ptosis, upper eyelid retraction (ULR) is not commonly reported complication of the anophthalmic socket. The present case pretend to remember the importance of being aware of this rare clinical entity.

Methods: Case report and literature review.

Results: A 52-year-old woman with a history of evisceration at the age of 15 years following a penetrating eye injury at the age of 5 years had recently developed left upper eyelid retraction. At the time of evisceration, she had not received an orbital implant. She had been wearing the same prosthesis for the past 10 years. The patient refuse secondary orbital implant. Transcutaneous levator recession with interposition of buccal mucosa and lateral tarsal strip were the procedure used by the author followed 3 months later by a left subbrow injection of hyaluronic acid (Restylane, Q-Med, Sweden) to fill the deep superior sulcus. Months after surgical correction, the retraction of upper lid was corrected.

Conclusions: Upper eyelid retraction may be a rare and often late complication of the anophthalmic socket. Increased recognition of this complication may help to better define etiological factors and management surgical strategies.

P029

Two staged periocular reconstruction after necrotizing fasciitis

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Background: Necrotizing fasciitis is a rare, rapidly progressive and live treathening disease, comprising of subcutaneous soft tissue and superficial fascia infection with secondary necrosis in the overlying skin. Predisposing factors are immunodeficiency, hepatitis C infection, alcoholism, diabetes. Periocular involvement is rare, with lower mortality rate, but the surgical correction of disfiguring eyelid and periorbital changes in survived patients is a challenge for the surgeon.

Objective: To present our surgical approach in a case of a 51 y.o. male patient with extensive periocular cicatrization after toxic shock, previously diagnosed as angioneurotic edema.

Materials and methods: 51 y.o. male presented in our clinic with severe periocular cicatrization on the left side, causing lower eyelid lagophthalmus, upper eyelid ptosis, exposition of the lower half of the eyeball and conjunctival prolapse and keratinization. A month ago the patient has been treated in intensive care department with septic shock, initially diagnosed with angioedema, but afterwards has been documented extensive skin necrosis of the periocular region and polymicrobial cultures have been isolated.

Results: We performed two stage reconstruction of the lower eyelid with combined free skin graft fom the retroauricular area and pedunculated flap from the upper eyelid. Tree months after, we corrected residual anterior lamella and upper chek deficiency by skin graft from the contralateral preauricular zone. At the sixth postoperative month we documented stable eyelid position with full eyelid closure ability and



acceptable cosmetic result.

Conclusions: The periorbital necrotizing fasciitis is a severe disease with serious cicatricial changes in the eyelids and periocular zone. Prompt diagnosis is crucial for the adequate treatment and final outcome, but the surgical reconstruction of the involved area provides normal function of the eye.

P030

Bandage contact lens as an adjunct in the modified Puttermans procedure

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The Puttermans procedure is effective in correcting 1-2mm of lid ptosis. The procedure involves partial advancement and resection of Mullers muscle. It requires the placement of a specially designed clamp to facilitate suturing and excision of Mullers muscle and conjunctiva.

We demonstrate how a post operative bandage contact lens can protect against corneal trauma following the procedure and improve patient comfort. In a series of 80 cases no corneal complications occurred.

P031

The use of micrographic Mohs-surgery for the treatment of patients with basal cell carcinoma in the periorbital region

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The results of surgical treatment of 34 patients with basal cell carcinoma located in the periorbital area using micrographic Mohs-surgery from 2017-2019 were analyzed in the clinic. During this period, 20 women and 14 men were operated on (58.8% and 41.2%, respectively). The average age of the patient was 59.25 ± 10.88 years. In most cases, the tumor process was localized on the eyelids - 20 (59%), the medial canthus - 8 (23%), lateral canthus - 4 (12%) and in the marginal region - 2 (6%). The tumor size in 24 (71%) cases was ≤ 1.5 cm, in 10 (29%) cases - ≥ 1.5 cm. The histological subtype of basal cell carcinoma was verified by histological examination after I stage of micrographic Mohs-surgery: morpheaform was observed in 12 (35.3%) cases, the nodular - in 9 (26.5%), micronodular - in 9 (26.5%), infiltrating - in 4 (11.7%). 3 stages of tumor excision using Mohs-surgery are performed in average. After reaching the purity of the peripheral and deep boundaries (R0), the wound defect was closed: semicircular flaps - 14 (41.2%) cases, rotation flaps - 10 (29.4%), bilobed flaps - 7 (20.6%), Hughes tarsoconjunctival flaps - 3 (8.8%) cases.

It is concluded that Mohs micrographic surgery is the treatment of choice for the high-risk basal cell carcinoma, as it allows a complete assessment of the peripheral and deep margins of resected tumor and preserving of the unaffected tissue surrounding the tumor for maximal functional and aesthetic postoperative results.



P032

A case report of late recognized periocular necrotizing fasciitis

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Introduction: Periocular necrotizing fasciitis (PNOF), a very rare disease that affects the skin and subcutaneous tissues very rapidly, is diagnosed clinically, often confused with preseptal and orbital cellulitis, and may be fatal if it is not intervened urgently. It has been reported only in 91 cases between 1991-2002.(1) Risk factors such as immunosuppression, diabetes, corticosteroid and immunosuppressive drug use, malnutrition, alcoholism were listed, while 52.1% did not have an underlying systemic cause. (1) After the diagnosis of PNOF, surgical debridement and broad-spectrum intravenous antibiotics should be initiated immediately to reduce mortality and morbidity. Although hyperbaric oxygen therapy is controversial, it may be recommended for rapid tissue healing after debridement.(1)

Case: The 56 year old male patient with no additional disease and no previous medication was admitted to the hospital with ecchymosis and necrosis of the upper and lower eyelids. He had received intravenous treatment at the external center for 3 days. At the computed tomography, the orbita was not affected while thickening of the dermis and soft tissues extending from the periorbital tissues to the temporal area and subperiosteal abscess formation in the orbital superolateral wall were reported. He underwent emergency surgery with the diagnosis of PNOF and underwent subcutaneous debridement, necrosectomy and lateral cantotomy to control intraocular pressure and tissue samples were sent to microbiology for further study. After the reoccurrence of necrosis in the post-operative follow-up period, a second deep debridement was planned and after secondary healing, the wound was repaired with supraclavicular free tissue graft.

Conclusion: PNOF is a rare disease that is difficult to diagnose. Surgical debridement should be performed as soon as possible and should be treated urgently due to the high mortality and severe morbidity.

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P033

Rare bilateral palpebral localisation as sole manifestation of discoid lupus erythematosus - case report

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Discoid lupus erythematosus is a chronic cutaneous inflammatory disease frequently involving the sun exposed skin (back of the nose, scalp and ears). Palpebral lesions have been reported in less than 6% of cases.

Case report: We report a case of a 42 years old female patient, with a 7-year history of inflammatory patches with areas of ulceration, telangiectasia and madarosis, involving both inferior eyelids. Histopathological and immunofluorescence studies of biopsy specimen from the lesions established the diagnosis of DLE. There was no evidence of systemic involvement or other significant cutaneous lesion. The topical corticosteroid ointment and meibomian expression were ineffective. Hydroxychloroquine was the treatment of choice, and photoprotection was highly recommended.



P034

Patient with eyelid xanthomata presenting as the first sign of Erdheim-Chester disease - case report

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Objective: Erdheim-Chester disease (ECD) is a rare histiocytosis, which often affects multiple organ systems. The specific underlying cause of ECD is unknown. Xanthomata on the eyelids may rarely present as the first sign of the disease. We present a case report of female patient with ECD, histopathologic features and treatment.

Methods: A 53-year-old woman observed yellowish thickened lesions on the eyelids bilaterally for 2 years. She has been treated for undifferentiated arthritis with methotrexate by rheumatologist and for ordinary xanthelasmata with laser therapy by dermatologist, but the eyelid lesions quickly recurred. Because of the unusual appearance and suspicion of xanthogranuloma, an incisional biopsy was performed. The biopsy was consistent with diagnosis of ordinary xanthelasma. Cosmetic upper lid blepharoplasty was performed and because of the extension into deeper structures visible during surgery another biopsy sample was sent for reevaluation.

Results: In the blepharoplasty specimen, the depth of the histiocytic infiltrate and the presence of Touton giant cells were morphologically consistent with xanthogranuloma and raised suspicion of ECD. A molecular-genetic analysis showed a KRAS mutation (in the absence of mutations in BRAF, MAP2K1, MAP2K2 or NRAS genes). Scintigraphy of the skeleton and PET CT were performed, which showed pathological accumulation of contrast in the vertebrae, acetabulum, soft tissue of the joints of the limbs, which was together with the presence of a KRAS mutation in the histocytes consistent with the diagnosis of ECD. Patient is currently under haematological evaluation and on methotrexate therapy.

Conclusions: In the case of atypical recurrent xanthelasmata, the differential diagnosis of the rare ECD should be considered. Diagnosis is confirmed by histopathological examination, PET-CT and scintigraphy of the skeleton. It is a multisystemic disease requiring multidisciplinary collaboration in its diagnosis and treatment. As in our case, xanthomata on the eyelids can be the first manifestation of the disease.

P035

Intense pulsed light treatment for moderate to severe acute blepharitis/blepharoconjunctivitis

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Background: The aim was to evaluate the efficacy of periocular intense pulsed light therapy in the treatment of moderate to severe blepharitis/blepharoconjunctivitis.

Methods: This single-institution, retrospective study involved 11 patients who received bilateral treatments using a intense pulsed light device (E > Eye, ESwin, Paris, France) at baseline, week 2 and week 6. Clinical evaluations performed at baseline and week 10 were slit-lamp examinations and symptom scores (the Compression Of The Eyelid (COTE) grading system, Ocular Surface Disease Index (OSDI), ocular surface staining with Oxford grading scale, and lipid layer thickness (LLT), non-invasive "Tear Meniscus" test (TMH), non-invasive break up time measurement (NIBUT), meibography with I.C.P. Ocular Surface Analyser, SBM Sistemi, Italy).

Results: Significant improvements in symptoms (OSDI $p < 0.0001$), LLT ($p < 0.0001$), meibography ($p < 0.0001$) occurred at week 10. As the COTE and ocular surface staining scores decreased 59.72%, 57.14% respectively, inversely NIBUT and TMH increased 47.34%, 22.16% respectively. Improvements in slit-lamp examination for acute blepharitis/blepharoconjunctivitis were correlated to the improvement in OSDI, LLT and meibography. There were no adverse effects of treatment.

Conclusions: Serial intense pulsed light therapy significantly improved moderate to severe blepharitis/blepharoconjunctivitis symptoms and clinical signs, including meibomian gland morphology and secretion quality.



P036

Periocular Necrotising fasciitis in a 5-year old child - A rare case

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Introduction: Necrotising fasciitis (NF) is a severe and rapidly progressing bacterial infections that involves muscles and subcutaneous fat with later necrosis of the overlying skin. Only a few case series describe this condition in a pediatric population. At early stages the diagnosis may be challenging, leading to delayed diagnosis and medical and surgical therapy. Here, we report a case of a very rare condition: periocular NF in a child.

Case presentation: A 5-year old girl presented with pyrexia for one week and left upper eyelid swelling for 2 days. A subsequent imaging of her sinus and orbits revealed a severe ethmoid sinusitis with a subperiosteal abscess on her left side. She underwent sinus surgery. However, clinically findings did not improve. She developed characteristic clinical features NF with the need for debridement. Under intensified anti-biotic treatment the findings settled and reepithelialisation of her periocular skin occurred.

Comment: Necrotising Fasciitis (NF), is a rare, however rapidly progressing subcutaneous soft tissue infection. It usually affects trunk, abdomen and perineum, rarely head and neck area especially the periocular region. The incidence of periocular necrotising fasciitis (PONF) is very low, and NF usually affects male adults at the age over 60. PONF has better prognosis than NF elsewhere, but nevertheless it may be associated with significant risk of visual loss and death. Clinical signs may be similar to orbital cellulitis with later formation of blisters and bullae, followed by crepitus, skin anaesthesia and ultimately skin necrosis as seen in our young patient. As demonstrated in our case, the main burden is early clinical diagnosis, however this may result in good clinical results. Intravenous antibiotic treatment with cautious observation and a low threshold for surgical debridement is obligatory.

P037

Sebaceoma of the eyelid

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Objective: To describe a case of a left upper eyelid sebaceoma.

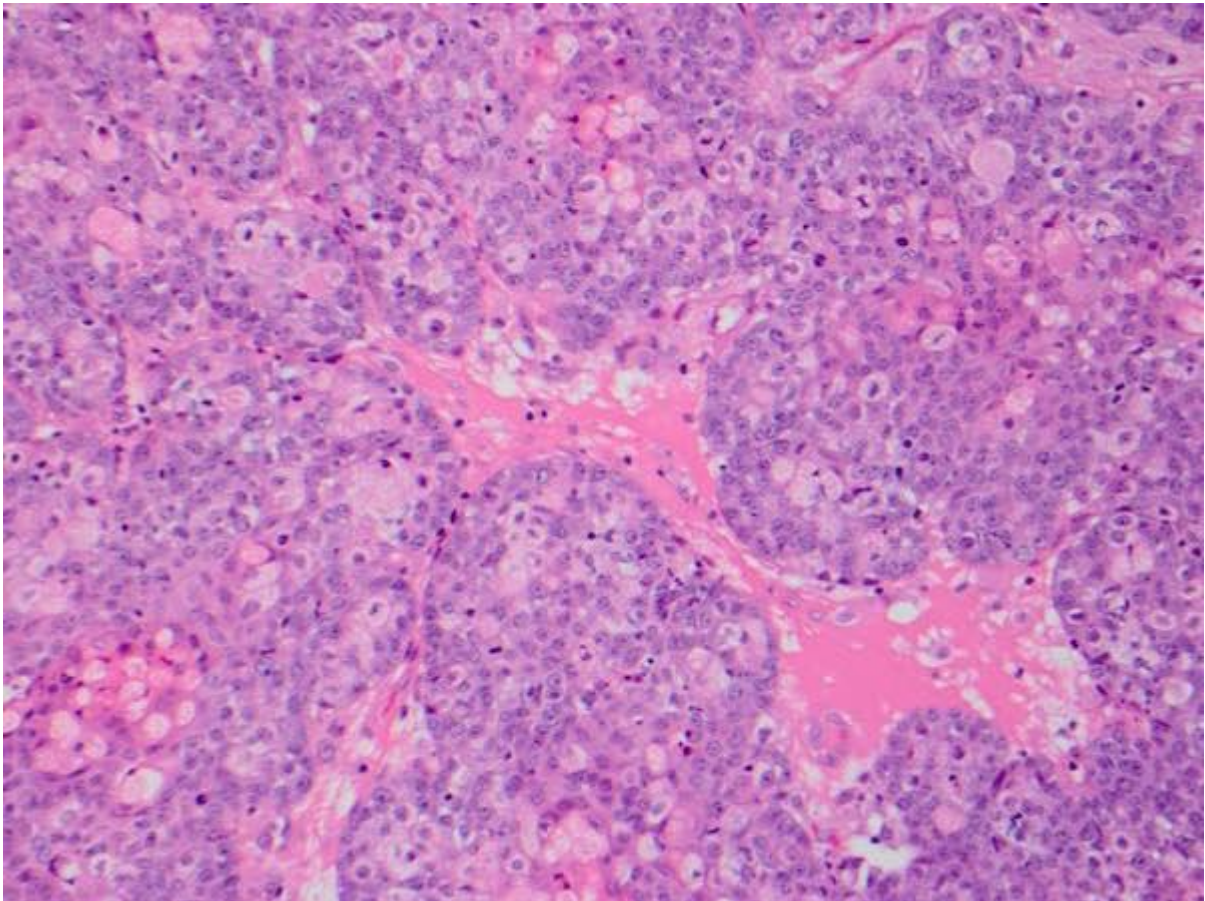
Methods: Case report.

Results: A 73-year old man presented with a left upper eyelid nodule for one year. It was subcutaneous, non-tender, uninflamed and without discharge, and seemed attached to the tarsus (Figure 1). Eyelid eversion revealed a smooth palpebral conjunctival surface with one dilated Meibomian gland. During excision the mass was found to be focally adherent to the tarsus. Histopathology revealed a tumor composed of basaloid cells and mature sebocytes that were positive for adipophilin and androgen receptor, consistent with a sebaceoma of a Meibomian gland (Figure 2).

Conclusions: Sebaceomas are uncommon benign tumors of sebaceous glands. Only two have previously been well-described in the eyelid. Along the spectrum of sebaceous tumors they occupy an intermediate position between sebaceous adenomas and sebaceous carcinomas. They are less organized than sebaceous adenomas, but do not display the nuclear atypia that characterizes sebaceous carcinoma. Like sebaceous adenomas they can be associated with Muir-Torre syndrome. Clinical differential diagnosis includes epidermoid cyst, intratarsal keratinous cyst, chalazion, sebaceous adenoma and sebaceous carcinoma. Histopathologic differential diagnosis includes sebaceous hyperplasia, sebaceous adenoma, sebaceous carcinoma and basal cell carcinoma with sebaceous differentiation.



[Figure 1]



[Figure 2]



P038

Transconjunctival approach in ptosis surgery

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Aim: Case reports of ptosis correction by transconjunctival approach with evaluation of results and use of Hering's law.

Patients and methods: Over the past 5 years (January 2014 to December 2018), 306 operational corrections of ptosis (including secondary interventions) were performed. Transdermal approach was used in 180 cases (58.83%), and transconjunctival in 126 cases (41.17%). There were 260 primary interventions and 46 secondary interventions (15.03%). For the above 126 interventions, the indications were as follows: aponeurotic ptosis 62 (49.20%); involutional ptosis 30 (23.80%); congenital ptosis 22 (17.47%); and other etiology (posttraumatic, paralytic, etc.) 12 (9.52%). The methods used to correct ptosis were: (1) Muller's muscle-conjunctival resection (MMCR) sec. Putterman; (2) Muller's muscle resection (MMR) sec. Sours; (3) resection (or duplicate) of levator palpebrae superioris muscle sec. Sharma; and (4) resection (or duplicate) of levator palpebrae superioris muscle sec. Mohindra.

Results: Satisfactory results were achieved in both functional and aesthetic sense, and there was no need for secondary interventions. There was no need for secondary interventions in patients with Hering's phenomenon.

Conclusion: Ptosis surgery is always a compromise between the desired and possible.

P039

The importance of the immediate approach of the retrobulbar hematoma: case report

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Introduction: Orbital hematoma is a complication that can lead to amaurosis. It can be classified into pre-septal and post-septal. The present case reports the clinical features of retro orbital hematoma and how was treated.

Case report: C.L.S, 63 years old, male, VA 1.0 both eyes, who underwent to transcutaneous lower blepharoplasty. Five hours after hospital discharge the patient returned to the Service with loss of vision, pain on the left eye and hypertensive crisis (220x100 mmHg). The clinical evaluation showed edema, hematoma with loss of upper palpebral sulcus, limited and elevated IOP. The diagnosis was retroorbital hemorrhage and the patient underwent to emergency surgery. It was performed cantholysis, removal of clots and cauterization of the bleeding vessel, maintenance of open operative wound and hospitalization. The vision was recovered immediately. The postoperative treatment was based on corticosteroids and antihypertensive drugs. The left lower eyelid was reconstructed on the 7th postop day.

Discussion: The clinical condition corroborates with the studies on retro-orbital hemorrhage, which is characterized by a sudden onset of exophthalmos, ocular pain, difficulty in the movement of the extrinsic ocular musculature and alterations of the visual acuity and lead to blindness.

In the intraoperative period, hemostasis should be careful.

This case denotes the importance of evaluating the time of hematoma formation. The results are satisfactory if the treatment is initiated rapidly.



P040

Periocular burns: a literature review of classification, management protocols and outcomes of treatment

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More than two-thirds of facial burns involve the eye or periocular area and 7.5-27% of all patients treated for burns have ocular involvement. 84% of these are due to chemicals and 16% due to thermal injury. Reflex blinking of eyelids, bell's phenomenon, in response to heat and smoke and protective movements of arms and head, usually protects the cornea and eyelid margins. Frequent ocular injuries seen as a result of facial burns include lid burns, corneal burns, foreign bodies, abrasions, perforations, and contracture leading to ectropion. Because of the life-threatening nature of severe burn injuries to the face and the associated massive swelling of eyelids, ocular injuries may not be noticed early and treatment may be delayed. Appropriate early intervention can have a significant effect on the final outcome for the burn patient. Permanent visual impairment is rare if prompt management is done.

Superficial lid burns usually heal spontaneously and can be managed conservatively with ophthalmic antibiotic ointments, artificial tears. However, in deeper burns, early surgical intervention in the form of eschar debridement or release of contracted lids and resurfacing defects with split skin grafts can prevent secondary corneal damage. This paper is a review of the current literature regarding the principles of classification, management protocols of acute ocular and periocular burns and the role of burn and oculoplastic surgeon involved in their care.

P042

Congenital infiltrating hemifacial lipomatosis

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Background: Congenital facial infiltrating lipomatosis (CFIL) is a rare disorder characterized by soft-tissue infiltration of mature non encapsulated lipocytes . Bone hypertrophy, macroglossia, macrodontism , neural involvement and proliferation on parotid gland may also be associated. This unilateral fatty tissue infiltration always results in a facial asymmetry that progressively increases and is usually present at birth. We report a new case of CILF, which may be one of the first few cases reported in Spain and the unique case associated with upper eyelid ptosis

Methods: We described a 3 month baby girl presented with a hyperplasia of subcutaneous tissue of her right face, which had been gradually progressing since birth, resulting in a mild facial asymmetry with upper lid eyelid unilateral ptosis. Developmental milestones and prenatal history were normal.

Results: she had right eyelid puffiness with marginal reflex distance right upper lid 3mm and left 5mm; cheek swelling and a flat angioma on her upper right eyelid. Ophthalmic and intraoral examination were normal. Magnetic resonance (MRI) showed diffuse lipomatous infiltration with increased thickness of the subcutaneous fat on right face and infratemporal region. No neurological, bony, teeth anomaly or other findings were associated.

The differential diagnoses included encephalocraniocutaneous lipomatosis, Proteus syndrome, hemangioma and lymphangioma, and were excluded according to the MRI.

Our diagnosis of CILF was based on the patient's medical history, clinical manifestations, and imaging features. Surgery is regarded as the first choice in the treatment of CFIL, however, since the asymmetry is mild with no progression for 3 months and no bony associated diseases, a conservative approach has been recommended.

Conclusions: CFIL is a rare and progressive disease that poses a diagnosis challenge. Gradual progress and recurrence make it even harder to cure. Besides, the psychological impact on such patients must be considered

P043

Case presentation: out of nothing at all

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Objective: To present management strategy, implementation and outcome of unilateral upper & lower eyelid reconstruction following advanced burn injury.

Methods & Results: A 28-year-old male worker with complete loss of eyelids, cornea, and anterior ocular surface and anterior segment of his left eye secondary to accidental pouring of molten iron.

Surgical reconstruction was planned in two stages. First stage involved evisceration with implantation of the largest possible orbital implant, with a mucous membrane graft placed over the implant. An orbicularis muscle flap was dissected to provide a potential blood supply, and a free skin graft placed over the peri-ocular area. The second stage involved splitting of the eyelid skin graft using a hard palate graft and lateral Canthopexy using a periosteal flap. Eight weeks later the patient was fitted with ocular prosthesis, with satisfactory outcome.

Conclusion: While eyelid and ocular burns are extremely rare, the real challenge was in the loss of all eyelid substance, as well as the eye itself which has deemed the regular rules of reconstruction not feasible. This was complicated by the progressive nature of burn injuries with inherent risk of scarring and severe ischemia.

There is a lack of consensus regarding treatment, and type of surgery and treatment usually aims at protection of the eye and prevention of visual complications, and orbital compartment syndrome. In this case, longer follow-up is required to properly evaluate the success and effectiveness of this procedure.



[burn injury day 5]

P044

Anterior segment high-resolution optical coherence tomography - a useful, adjunctive tool in the diagnostics of different conjunctival lesions

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Objective: Traditional diagnostic methods for conjunctival eye diseases include history, clinical examination, impression cytology and histopathology. In recent years, anterior segment high resolution optical coherent tomography (HR OCT) have been established for diagnostic and monitoring purposes. The use of a HR OCT device in the diagnosis of different conjunctival pathologies is presented.



Methods: Patients with different conjunctival pathologies were enrolled in prospective case series. HR OCT (Spectralis HRA + OCT, Heidelberg Engineering Inc., Germany) was used for analysis of pingueculum, pterygium, conjunctival intraepithelial neoplasia (CIN), conjunctival cyst, epibulbar dermoid, naevus, melanoma and lymphoma. In most of the cases surgical excision was performed and histopathologic specimens were correlated with OCT images.

Results: On HR OCT images in CIN epithelial thickening and hyper-reflectivity was observed. Pterygium and pingueculum showed a subepithelial mass under thinner epithelium, while in conjunctival cyst hypo-reflective content under thinner epithelium was observed. In epibulbar dermoid epithelium was not thinner and subepithelial mass was nonhomogeneous. Lymphoma described a hypo-reflective subepithelial mass, whereas naevus and melanoma presented hyper-reflective epithelial layers. Presence of cysts in lesion indicated benign etiology. Our findings were similar with former studies.

Conclusions: HR OCT distinguishes different pathological changes based on optical characteristics. It is useful in differentiating among various conjunctival lesions whereas in most cases they should still be clinically evaluated and histopathologically proven. HR OCT is a promising non-invasive adjunctive diagnostic and monitoring tool for ocular conjunctival lesions.

P045

Wound dehiscence in an oncological patient

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Objective: To present a case of wound dehiscence in an oncological patient due in part to the anti VEGF drug treatment

Methods: Case report

Results: 59-year-old Caucasian woman with metastatic renal cell carcinoma underwent an uneventful excision of eyelid lesion, which turned out to be renal cell carcinoma metastasis. Soon after stitches removal there was a complete wound dehiscence. The investigation into patient's medications revealed that treatment with Cabozantinib was the main cause for the dehiscence. The implications of systemic and ocular anti VEGF drugs on wound healing will be discussed, as well as additional factors that contributed to the wound dehiscence in our and in general oncological patient.

Conclusion: Surgeons should understand the role of VEGF in wound healing. Meticulous preoperative evaluation should include thorough evaluation of patient's medications, nutritional status and chronic debilitating diseases and how those could affect wound healing. Further research is needed to establish safe guidelines for peri-operative anti-VEGF agents.

P046

Coloboma of the upper eyelid - a neonatal emergency

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Introduction: Goldenhar syndrome is a rare, usually unilateral disease, more frequent in males, characterized by the triad craniofacial microsomia, ocular dermoid cysts and spinal anomalies (1). Epibulbar dermoid cysts, microphthalmia and colobomas are common in this syndrome.

Colobomas of the upper eyelid are particularly damaging to the cornea and may lead to irreversible vision loss and occlusion of the eye may lead to amblyopia.

Reconstructive surgery of the eyelid is the only way to protect the ocular surface and prevent deprivation amblyopia.

Patient and methods: Female newborn, 2200g, presented right anotia, three left auricular appendages, lip-palate cleft (full right and partial left), right thumb tri-phalanx, ventricular septal defect, fusion of three



dorsal vertebral discs, subconjunctival dermoid cysts and an extensive coloboma (>1/3) of the upper left eyelid.

The baby underwent palpebral reconstruction surgery 48h after birth because of the high risk of the corneal exposure. Direct closure wasn't possible and an inverted Tenzel flap was performed.

The suture of the eyelid was performed in two planes. The posterior lamella with polygalactin 6/00 and the skin with polypropylene 6/00. The skin sutures were removed at 12 days.

Results: Four weeks after surgery, the eyelid has a good functional and aesthetic result; the cornea is transparent and the visual axis is free.

Discussion and conclusions: Goldenhar syndrome requires multiple surgeries. The risks and anesthetic difficulties are high so the various specialties should coordinate to reduce the number of interventions.

However, correction of upper eyelid colobomas is a surgical emergency when the cornea is exposed. Any kind of surgery strategy that involves a second intervention or temporary occlusion of visual axis increase the risk of anesthetic procedure and deprivation amblyopia. The Tenzel flap was shown to be suitable for eyelid reconstruction, allowing an optimal final result.

References: https://www.orpha.net/consor/cgi-bin/OC_Exp.php?Lng=PT&Expert=374- (consulted: 2-04-2019)

P047

Epidemiologic study of eyelid cancer 2015 - 2018 Tirana, Albania

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Eyelid lesions are common concerns amongst patients. Internists, family practitioners, dermatologists, and ophthalmologists are often requested to determine if a lesion is benign or malignant. Approximately, 5% of skin tumors occur in the eyelids. Periocular skin and eyelids are common sites of neoplastic lesions of the head and neck.

Objectives: Evaluating the prevalence of eyelid cancer, the mean age and the most common gender, the histological type and the most common site, and the recurrence too.

Methods: 1200 non selected patients were presented at the University Hospital

Center Mother Theresa, department of Ophthalmology during 30 June

2015 - 30 June 2018. Patients with mass or growth involving eyelid

managed by surgical intervention were selected for the study. Excised tissue masses were sent for histopathological examination

Results: Out of 1200 non selected patients, 178 were diagnosed with malignant eyelid tumors.

Conclusions: Prevalence of eyelid tumors in our study was 14.8%. Our data showed a different distribution between females and males, mostly in the lower lid, and the mean age was above 60.

P048

Ptosis in mitochondrial myopathy: a case report of unusual surgical correction

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Introduction: Mitochondrial myopathy is a multi-systemic disorder. In the eyelid, the progressive weakness of the upper eyelid levator and the progressive loss of periorbital muscles, demonstrate important ptosis.

Due to the risk of corneal exposure by lagophthalmos and poor Bell's reflex, surgery is only indicated when ptosis interferes with vision or significantly affects the patient's social life. Currently, the surgical technique of choice are frontalis suspension and levator resection, but recurrence are described in both long term follow up.

Objective: To report a rare case of myogenic ptosis and unusual surgical management.

Case report: A 48-year-old female patient complained of bilateral upper eyelid drooping for 2 years. The

eyelid occludes the visual axis, making it difficult to see, despite good visual acuity. Levator function was moderate and had good response to 10% phenylephrine test. Therefore, patient was submitted to conjunctivo mullerectomy surgery and superior blepharoplasty. (FIGURE)

Results: Patient was evaluated at 1 and 6 months after surgery and was very satisfied about the surgical outcome.

Discussion: In this case, eyelid correction was satisfactory enough for ocular opening and free visual axis. Patient's complaint of social impairment was also improved after surgery. Usually, some papers considered hypocorrection without axis impairment, a satisfactory result with frontal slings, resection and reinsertion surgeries, but not conjunctivo mullerectomy. Our case report suggests conjunctivo mullerectomy technique as a possible approach to mitochondrial myopathy when well indicated. Further studies are necessary for consistent results.



[Ptosis propedeutic with 10% phenylephrine test (A,B,C) and 1 month PO (D)]

P050

Dacryoendoscopy in the management of congenital nasolacrimal duct obstruction

Jens Heichel¹, Arne Viestenz¹, Hans-Gert Struck¹

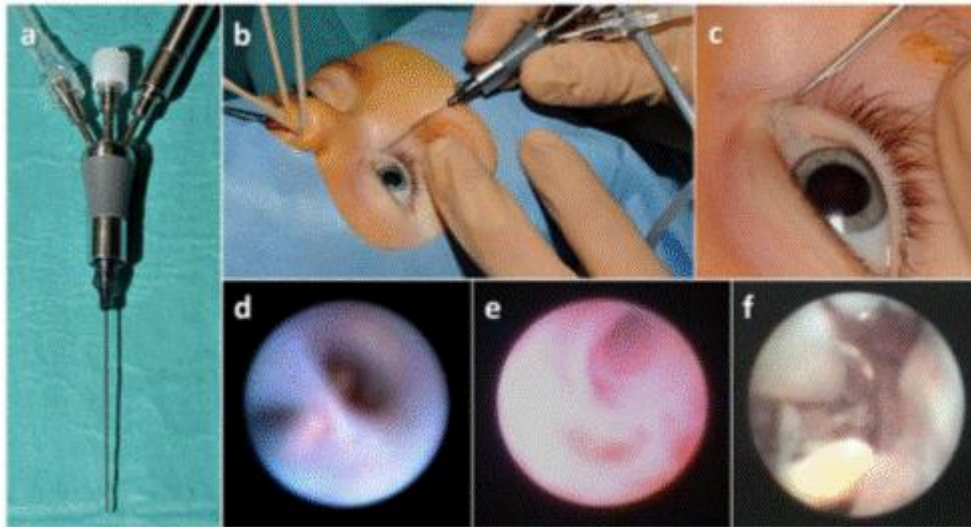
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Background: The treatment of congenital nasolacrimal duct obstruction (CNLDO) includes different approaches which can be summarized as a staged therapeutic concept. Here, dacryoendoscopy (DE) seems to gain a certain significance for the diagnosis and therapy of CNLDO.

Methods: According to own clinical experiences and a literature review, indications and application of DE in childhood are explained (a, b, c).

Results: Besides the typical manifestation of CNLDO as a consequence of a persistent Hasner's membrane a lot of atypical types are described. Of these, bony stenosis, lacrimal fistula (d) or combined (pre-, intra- and postsaccal) stenosis with or without aplasia are the most common issues. Furthermore, complex cases of Hasner's membrane persistence often require several probing and syringing procedures (e). An anormal anatomy might be the reason. Mucopeptide concretions, foreign bodies (f) or tumors are rare conditions which have to be drawn in consideration, too. For all these circumstances DE may offer additional diagnostic information and therapeutic options. Prior a dacryocystorhinostomy (DCR) in childhood a diagnostic DE can be recommended in order to evaluate other therapeutic approaches and to classify the type of stenosis. Since the implementation of this concept the rate of DCR in childhood could be reduced (from 4.7 % to 1.4 %). Even for children younger than 12 months suffering from CNLDO DE is applicable.

Conclusions: The majority of CNLDO cases can be cured by minimally-invasive transcanalicular interventions and blind nasolacrimal duct probing may remain the first-line procedure. In selected events DE offers additional diagnostic and therapeutic options.



[Dacryocystography: clinical setting and findings.]

P051

“One procedure for all” vs. “all procedures for one” in congenital nasolacrimal duct obstruction

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Backgrounds: After a failed conservative management, most clinicians treat congenital nasolacrimal duct obstruction (CNLDO) in a conventional stepwise fashion; starting with probing, then repeat probing, next silicone intubation and/or balloon dilatation, and finally dacryocystorhinostomy. It is based on the patient's age and previously failed procedure and recruits “One Procedure for All” CNLDO at a time. A newly introduced approach is based on the type of obstruction and recruits “All Procedures for One” CNLDO at a time. The aim is to revisit the best available evidence about CNLDO management seeking a preferred therapeutic approach.

Methods: The authors provide a review of the best evidence available in the field of CNLDO treatment in order to firstly address the time to commence the surgery and then show if this is the time to change the age-based to one-stage obstruction-based approach.

Results: Recent articles support the idea that through intraoperative evaluation of obstruction complexity features, clinicians may predict probing failure and instantaneously hire more appropriate treatment modalities. This review addresses if age-based approach should be changed into one-stage obstruction-based approach.

Conclusions: Age-based approach considers CNLDO a homogeneous disease and thus treat all with one predetermined procedure. One-stage obstruction-based approach, however, considers CNLDO a heterogeneous disease and therefore recruits all the procedures simultaneously and selects the best intraoperatively for its treatment. It may replace the conventional stepwise approach to CNLDO treatment provided that randomized trials verify its efficacy, safety and cost-effectiveness.

P052

Primary reconstruction of traumatic lacrimal duct laceration in children using autostable monocanaliculonasal tubes

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Background: Trauma of the medial canthal region can affect all parts of the lacrimal ducts and needs to be reconstructed microsurgically by using lacrimal intubation.

Methods: Surgical reconstruction of the lacrimal ducts with autostable monocanaliculonasal lacrimal tubes is demonstrated according to two case reports.

Results: A 6 years old girl being attacked by a dog (Rottweiler) showed severe periocular soft tissue damage with laceration of the inferior canaliculus (Fig. 1). Furthermore, the canaliculus lacrimalis communis was dissected from the lacrimal sac. Both canaliculi were stabilized with monocanaliculonasal lacrimal intubations.

The second case reports a five hours old newborn being injured during cesarean section. Here, a medial palpebral avulsion was caused after uterine bleeding was tried stop with a clamp. The canaliculus lacrimalis superior was lacerated close to the lacrimal punctum. The upper conjunctival fornix was opened over 12 mm (Fig. 2). After the lacrimal ducts were stabilized by monocanaliculonasal intubation a stepwise tissue closure was performed. In both case functional outcome showed no epiphora or mucosal discharge.

Conclusions: Periocular trauma with affection of the lacrimal ducts efforts lacrimal intubation with stepwise wound closure. Autostable monocanaliculonasal tubes enable a tension-free lacrimal splinting with respect to the further growing of the children.



[Periocular trauma after dog bite (left) and postoperative findings (middle 1 week; right: 6 months)]



[Periocular trauma after cesarean section. Findings after 1 week and 3 months (-> calamari ring sign)]



P053

Canaliculitis mimicking other ocular diseases: series of 8 cases

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Background: Canaliculitis is one of the most commonly misdiagnosed clinical entities among ophthalmologists. It is usually confused with conjunctivitis, chalazion, or even dacryocystitis. Staphylococcus epidermidis is the most frequent cause in the absence of canalicular concretions and Actinomyces if they are present. The definitive treatment is canaliculectomy.

Methods: We present the description of 8 cases of canaliculitis and the updated bibliographic review on this pathology.

Results: In our series, 5 women and 3 men were studied between 2016-2019. The upper canaliculus was affected more frequently (60%) than the lower one. Half of the cases were misdiagnosed as chronic conjunctivitis, and the other half were diagnosed as chalazion (25%) and dacryocystitis (25%). One case had been treated with monocanicular probe (minimonoka).

Only 37,5% cases of the cultures were reported as positive and the results were: Eikenella Corrodens, Staphylococcus epidermidis, and Streptococcus anginosus. A case with negative culture was reported as suggestive of Actinomyces israelii in the anatomopathological study. Half of the cases in which the microbiological agent was identified correspond to concretions and the other half to patients without these lithiasis.

In all cases canaliculectomy was performed, with resolution of 100% of the cases. There was only one post-surgical complication: a simblefaron from the opened canaliculus and the bulbar conjunctiva.

Conclusions: Canaliculitis is an unusual entity that requires a careful examination of the lacrimal drainage system. Surgical treatment by opening the roof of canaliculus and its curettage are essential to achieving therapeutic success.

P054

Angioplasty balloons in congenital nasolacrimal duct obstruction: an effective and cheaper alternative to the traditional lacrimal balloons

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Objective: To determine the feasibility, safety, and efficacy of using cardiac angioplasty balloons for balloon dacryoplasty (BDGP) in congenital nasolacrimal duct obstruction (CNLDO).

Methods: This is a prospective interventional study on children diagnosed to have CNLDO between July 2018 to January 2019. The inclusion criteria for the study were all children diagnosed to have CNLDO ≥4 years of age with no prior treatment, or those who have had a failed probing / stent intubation previously. These children underwent balloon dacryoplasty using standard protocols and a 2.75mm balloon. The anatomical and functional outcomes in these children were analyzed.

Results: Twenty three eyes of 22 children underwent balloon dacryoplasty. Average age was 4.33 years and gender distribution was almost equal (Male:Female=12:10). Right lacrimal apparatus was more frequently involved as compared to left (Right:Left= 16:7). Fourteen children (15 eyes) had previous history of probing of which 4 eyes had it twice earlier. Balloon dacryoplasty was done for all 23 lacrimal apparatus, 2 eyes had an additional intubation performed. At a mean follow-up of 6.17 months, anatomical and functional success was obtained in 87% cases (n=20/23).

Conclusion: Cardiac Angioplasty balloons are an effective and cheaper alternative to the expensive lacrimal balloons with comparable results.



P055

The efficacy of preoperative routine otorhinolaryngologic referral before endonasal dacryocystorhinostomy

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Background: To determine if routine otorhinolaryngologic referral prior to endonasal dacryocystorhinostomy (EN-DCR) is necessary.

Methods: Two hundred thirty-seven eyes of 178 patients who were supposed to undergo EN-DCR were prospectively analyzed. Nasal endoscopy was performed by an ophthalmologist and the patients who had severe abnormality were referred to an otorhinolaryngologist. The patients were classified into 3 groups after a preoperative examination by an ophthalmologist and an otorhinolaryngologist; the number and success rate of each group were then investigated. Group A consisted of patients who had no nasal cavity abnormality, Group B consisted of patients with a nasal cavity abnormality but who received no treatment, and Group C consisted of patients who had a nasal cavity abnormality and received otorhinolaryngologic treatment.

Results: The number of subjects in each group was 156 in Group A (87.7%), 12 in Group B (6.7%), and 10 in Group C (5.6%). The number of patients who were referred to the otorhinolaryngologist was 22 (12.3%). There was no statistical significance of success rate between the groups.

Conclusions: Routine nasal endoscopic examination should be performed by an ophthalmologist prior to EN-DCR. Only patients with severe abnormal findings should be referred to an otorhinolaryngologist as the results from the present study show the percentage of patients having significant nasal abnormalities was found to be low (12%) and the success rate of EN-DCR revealed no statistical significance between the groups. This could help patients by saving time and expense.

P056

Review of upper lid mono-crawford stent placement for congenital nasolacrimal duct obstruction. Can multiple general anaesthetics be avoided?

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All children undergoing canalicular stenting for failed primary lacrimal syringe & probe between July 2018 and January 2019 were included. Mono-Crawford stents were inserted via the upper puncta under general anaesthetic (GA) aiming to keep the stents in situ for 3 months. Patients were followed-up to assess symptoms, complications and ease of stent removal in clinic.

17 stents were inserted for 11 patients. Mean age at insertion was 5 years (range 2-9 years). 14/17 eyes (82%) reported symptom resolution or improvement at last follow-up (range 2-6 months). One eye's symptoms were unimproved after the stent came out on the day of surgery. Another had symptom recurrence after stent removal in clinic 4 months post-op. Premature spontaneous stent loss occurred for 6/17 (35%) < 3 months from insertion, however 4/6 gained resolved symptoms. 5 stents were removed in clinic, 1 patient required GA for bilateral stent removal. 1 patient was lost to follow-up with stents in situ, and 2 have stents in situ awaiting further follow-up. Upper lid stent placement afforded early improved or resolved symptoms by the first post-op visit (1-2 months) for 94% of eyes with or without a stent present. The only reported complication was mild ocular irritation in 1 patient.

We conclude Monocanalicular stents are an effective treatment for congenital NLDO in patients over 2 years, in whom syringe & probe has been shown to be less effective. Monocanalicular stents are tolerated well and are considered less traumatic compared to bicanalicular stents. Upper lid placement afforded an early improvement to symptoms for all but one patient. Monocanalicular stent use prevented 91% of patients having a second GA for stent removal. Premature stent loss was the main disadvantage, however 66% of eyes with a stent in situ for < 3 months reported resolved symptoms.



P057

Self-retaining bi-canalicular intubation versus 3 snip punctoplasty for treatment of acquired punctal stenosis: a comparative study

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Objectives: To evaluate the results of Self-Retaining Bi-canalicular Intubation (SRS) against those established with 3 Snip Punctoplasty.

Methods: A retrospective, comparative study of 46 eyes (25 patients) with acquired punctal stenosis treated in Magrabi Eye & Ear Center, UAE over a period of 2 years (2016-2018). Diagnostic probing was performed to confirm that proximal lacrimal passage stenosis was the only pathology present. Patients were assigned into two groups; Group I included ten patients (23 eyes) were treated with a conventional 3 snip-punctoplasty and Group II of fifteen patients (23 eyes) were treated with self-retaining bi-canalicular Intubation that done under topical anesthesia in the out-patient department. The degree of improvement was assessed based on the tear meniscus height, and dye-disappearance test, as well as subjective patient satisfaction using a predesigned calibrated questionnaire.

Results: In the first group (punctoplasty), 13 eyes (57%) showed both subjective & objective improvement, while group (SRS) 19 eyes (83%) showed improvement with no recurrence 2 month after removal of the tube. On the other hand, 10 eyes (43%) of group I, showed further narrowing & recurrence of epiphora, within 2 months, and 4 eyes (7%) of group II showed recurrence. These were operated again using combined 3-snip punctoplasty & SRS. One patient showed further recurrence after re-operation & was treated with bi-canalicular intubation using pigtail probe. Seven patients reported losing the tube 1-2 weeks post-operative out of which, three required repeated treatment. Overall results were more favorable with the SRS treated patients.

Conclusions: Self-retaining bi-canalicular intubation is an effective, minimally invasive procedure with a high success & satisfaction rate. Severely stenotic or fibrotic puncti can be treated with a combined procedure. There was a significant rate of spontaneous loss of the tube, requiring meticulous post-operative patient counseling.

P058

Primary sclerosing signet cell carcinoma of the lacrimal gland

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Objective: To describe the clinical behavior, histopathologic diagnostic criteria, supplemental immunohistochemical studies, and electron microscopic findings of a primary sclerosing (scirrhous) signet ring carcinoma of the lacrimal gland, a new ophthalmic entity.

Methods: Retrospective interventional case report and review of literature.

Results: An 88 year-old man presented with diplopia, limitation of extraocular movements, and a firm palpable mass in the superolateral region of the orbit. Biopsy revealed a sclerosing (scirrhous) signet ring carcinoma with histopathologic and immunohistochemical features mimicking those of a primary or metastatic cutaneous adnexal carcinoma, primary lobular breast carcinoma, or primary gastric carcinoma. Electron microscopy demonstrated polygonal cells with large electron dense secretory (zymogen) granules like those seen in lacrimal acinar pyramidal cells, consistent with a primary lacrimal gland lesion; an exhaustive systemic work-up including whole body positron emission tomography and gastrointestinal endoscopy failed to reveal a primary visceral malignancy. After several conversations with the patient, the decision was made to proceed with adjuvant radiation therapy, and the patient continues to do well six months post-operatively.

Conclusion: Though this type of primary signet ring carcinoma has rarely been reported in the eyelid, it has never been reported in major or minor salivary glands. To the best of our knowledge this is the first reported case of a primary sclerosing (scirrhous) signet ring carcinoma of the lacrimal gland, representing a new category within the nosology of lacrimal gland tumors.

P059

Lacrimal sac fungal granuloma - a diagnostic dilemma in an immunocompetent child

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Background: To describe a unique case of right eye lacrimal sac fungal granuloma, secondary to mucormycosis, in an immunocompetent child with an atypical presentation.

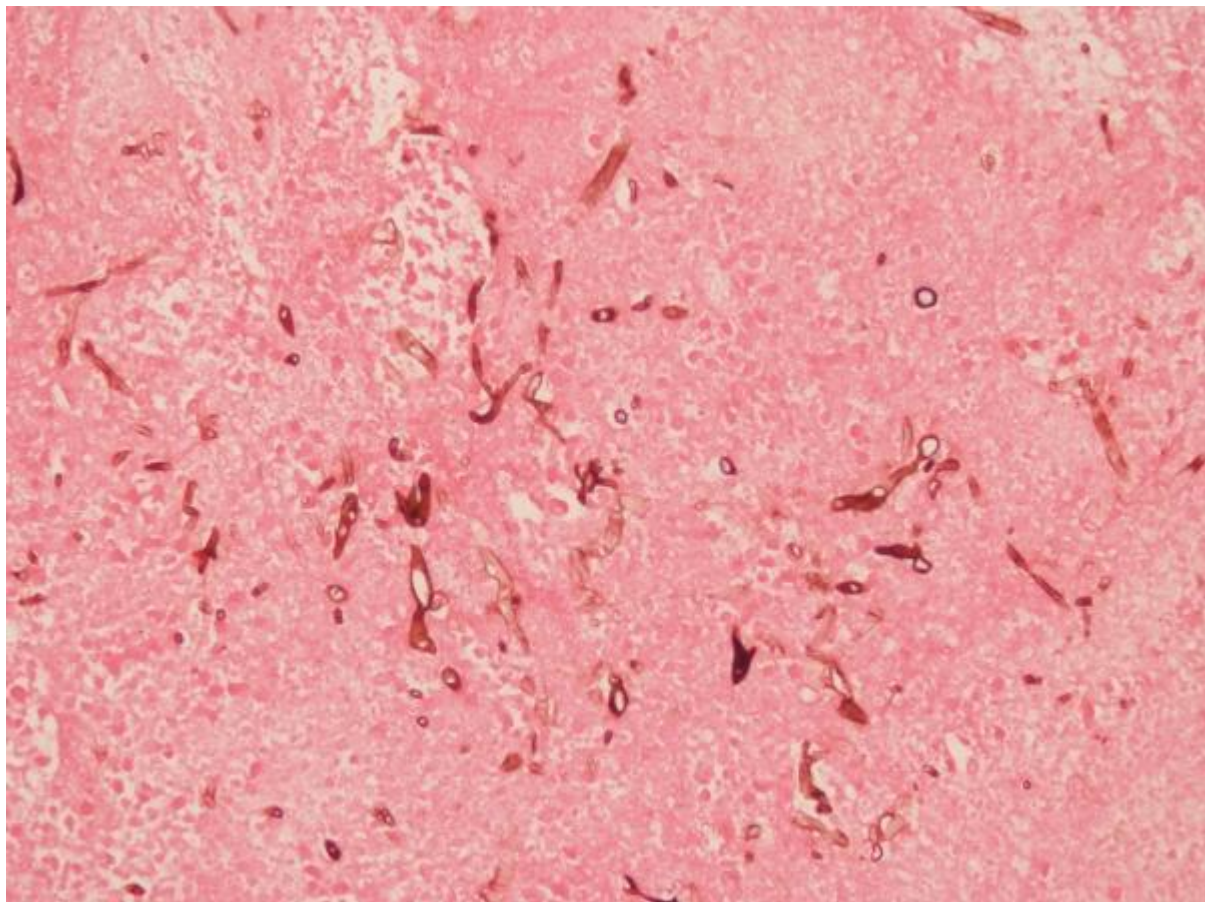
Method: A 3 year old healthy male child presented with epiphora and rapidly progressive swelling near the right medial canthus of 1month duration, not responding to antibiotics. Examination revealed ill- defined, firm, non -tender and non -reducible swelling over the lacrimal sac area with medial canthal dystopia. Magnetic resonance imaging of orbit and paranasal sinuses with contrast was suggestive of right sided granulomatous dacryocystitis with bilateral ethmoid and maxillary sinusitis. Systemic workup showed normal immune status.

Excision biopsy was performed and histopathological examination revealed necrotizing inflammation with foreign body giant cell reaction on Hematoxylin and Eosin stain. Gomori Methenamine silver(GMS) stain showed broad aseptate fungal hyphae with non-parallel walls, suggestive of mucormycosis.

Diagnosis of fungal granuloma of lacrimal sac, secondary to mucormycosis, was made and the child was started on empirical treatment with anti-fungal therapy in the form of intravenous Amphotericin B followed by oral Posaconazole for 6 months.

Result: The child had an excellent outcome with the combined surgical and medical management with complete resolution of the swelling and no recurrence at 1 year follow-up. The lacrimal rehabilitation is planned in view of persistence of epiphora.

Conclusion: Being a rare entity, ophthalmologists should be aware of this differential diagnosis in a child presenting with antibiotic resistant dacryocystitis, as it will lead to targeted therapy with better clinical outcomes.



[Microphotograph showing broad aseptate fungal hyphae on GMS stain]



P060

The conjunctivodacryocystorhinostomy and the depressive disorders in patients with canalicular obstruction

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The objective of the study includes the identification of relationships between the constant tearing and mood disorders in patients with obliteration of lacrimal canaliculi.

Methods: Prospective interventional case series. 28 patients (13 females and 15 males) with total canalicular obstruction underwent common conjunctivodacryocystorhinostomy procedure. A total of 30 surgeries were performed. Postoperative complications of migration and extrusion of the lacrimal bypass tube and its lumen obstruction were noted. The depressive disorders were evaluated by the fellow from psychiatry department. Clinical assessments were rated by Hamilton Depression Rating Scale (HDRS-21) and the Clinical Global Impression-Severity of Illness Scale (CGI-S). The symptoms were evaluated before surgery and 6 months after treatment.

Results: All patients complained about severe tearing before treatment. Baseline total HDRS-21 scores were 16.54 ± 4.14 and CGI-S scores were 3.9 ± 0.7 . This indicates the uncommon depressive disorders prevalence in patients with canalicular obstruction. There were light depressive syndrome in 23 cases (8-16 HDRS-21 scores), moderate depressive syndrome in 4 cases (17-24 HDRS-21) and severe depressive syndrome in 1 case (25 HDRS-21 scores).

Reduction of tearing were achieved in all patients after surgery. Cases of migration and extrusion of the lacrimal bypass tube were fixed in 19 patients and total of 35 instances of lumen obstruction were observed at various times in 25 patients.

By the end of the six months, HDRS-scores had fallen to 7.7 ± 2.4 and the mean CGI-S score dropped to 1.9 ± 0.7 ($p < 0.05$).

Conclusion: Different manifestations of depressive disorders were detected in all patients with obliteration of lacrimal canaliculi. Severity of depressive disorders was significantly reduced during 6 months after conjunctivodacryocystorhinostomy procedure in all patients.

P061

Video nasal endoscopy demonstrates resolution of post DCR lacrimal pump failure following correction of lower lid laxity

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Our pre and post op nasal endoscope videos describe how persisting epiphora following external dacryocystorhinostomy can be addressed by a corrective lid procedure.

Following uneventful external DCR, the naso-lacrimal system was noted to be 100 percent patent on syringing and the nasal passage could be easily probed. Fluorescein was seen backing up at the level of the common canaliculus visible via nasal endoscopy.

Incidental lid laxity was noted and identified as the cause of lacrimal pump failure. A lid tightening procedure (lateral tarsal strip) was subsequently performed and repeat recording via nasal endoscope revealed no further fluorescein pooling, and free flow into the nose, a successful functional endoscopic dye test.



P062

Evaluation of transcanalicular diode laser-assisted dacryocystorhinostomy as a first-line procedure

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Objective: The aim of this study is to assess the effectiveness of the transcanalicular laser dacryocystorhinostomy for the treatment of the primary obstruction of the nasolacrimal duct, depending on whether it is complicated or not with chronic dacryocystitis. We issue the hypothesis that chronic inflammation of the sac would favor the closure of the cicatricial ostium.

Methods: It is a monocentric retrospective study. We included the patients who underwent transcanalicular laser dacryocystorhinostomy between July 2015 and October 2017 and having a minimum follow-up of 12 months. All the interventions were performed under local anesthesia and sedation.

Results: 40 patients were included (19 obstructions of nasolacrimal duct no complicated, 19 chronic dacryocystitis and 2 canaliculus occlusions). There were 32 women and 8 men. All patients have intubation two-channel silicone, except one. We present the success rates anatomical and functional according to the operative indication.

Conclusion: The presence of chronic dacryocystitis may be a factor failure of transcanalicular laser dacryocystorhinostomy.

P066

Epiphora and cataract surgery

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Background: Cataract surgery is the most common operation performed in the UK. Ophthalmologists are keen to optimise conditions to ensure safe surgery and good outcomes.

We accept that surgery should not proceed in patients with signs of infection or a mucocoele. However, epiphora is not an uncommon symptom. Patients with watery eyes are often deferred from cataract surgery at listing.

The aim of this study is to identify if patients admitted for routine cataract surgery have significant preoperative epiphora and to ascertain if this alters their safety profile.

The incidence of post cataract surgery endophthalmitis in our institution is in keeping with UK national figures.

Methods: A prospective study of patients undergoing cataract surgery. Patients were preoperatively asked to complete the Munk's score of epiphora anonymously. A significant result is a Munk's score equal to or greater than grade 2. Postoperative infections were then recorded.

Results: 100 patients undergoing routine cataract surgery were selected at random. On the Munk's score of epiphora, 54 patients reported no watering (grade 0). 24 patients reported occasional watering requiring dabbing less than twice a day (grade 1). 14 patients reported watering requiring dabbing two to four times per day (grade 2). 8 patients reported watering requiring dabbing five to ten times per day (grade 3). There were no patients who had grade 4 (epiphora requiring dabbing more than ten times per day) or grade 5 (constant tearing). Significant epiphora was present in 22% of patients. There were no cases of post-operative endophthalmitis in this cohort. The mean Munk score was 1.3 (range 0-3).

Conclusions: Significant epiphora is not an uncommon symptom in patients about to undergo routine cataract surgery. However, our study demonstrates that this does not seem to pose a greater risk in developing post-operative infection following cataract surgery.



P067

Aggressive pleomorphic adenoma. Report of a case

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Epithelial tumors of lacrimal gland represents 20% of orbital tumors, most of them 55% are benign. Most malignant lesions are adenoid cystic carcinoma 66% followed by carcinoma ex pleomorphic adenoma 18%. When a lacrimal tumor suspected of being a pleomorphic adenoma should be excised completely; because its described a significant potential for malignant transformation many years later.

Case report: A 74 years old woman with less than 1 year history of progressive left exophthalmos, no painful. A subcutaneous mass was palpable in lacrimal region. Visual acuity was 0.1, and exophthalmos of 7 mm. CT describe a well-circumscribed tumor of 15x24x24mm, with enlargement of lacrimal fossa and few calcifications.

The lesions was excised completely but a little cystic anterior lesion was broken. Histologist analysis was basaloid cells and mioepithelial component, scamous areas mixed and reported as pleomorphic adenoma. In 6 months lesion was larger than first tumor 43x39x21mm, non systemic evidence of metastasis. Patient was exenterated with radiotherapy 60 Gy. It was composed by benign and malignant components. Carcinoma ex adenoma pleomorphic diagnosis was made. 7 months later the tumor have recurred.

Discussion: Pleomorphic adenoma are benign tumors that despite having a possible malignant transformation when had made a biopsy or incomplete resection or opening cysts injury during surgery in 30% of cases, recurrence is described between 3 -50 years and only malignant in 10% of cases, with a slow course. In our case an special aggressive course was observed and no had reaction to external beam radiotherapy.

A higher degree of suspicion must be present to make diagnosis and follow up in atypical cases as our.

P068

The use of a tear duct video endoscope in the perioperative management of keratoprotheses Implantation

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Background: The keratoprosthesis program include keratoprotheses with biological haptics (Osteo-Odonto and Tibia-Kpro) as well as the Boston-Kpro for the treatment of severe corneal visual impairment. Both during the implantation of the optical cylinder, as well as in any necessary revision surgery, the orientation anterior or posterior of the corneal plane is limited by the geometric properties of these prostheses. A postoperative funduscopy or sonographic display of the optic disc or retinal periphery is limited due to the bony haptic.

Material and methods: We examined the use of videoendoscopy to improve the intraoperative visualisation in three cases and evaluated the improvement of the preimplantative diagnostics in one case. Intraoperatively, a tear duct video endoscope (PolyDiagnost®) was used in four patients. A 74-year-old woman and a 67-year-old man were scheduled for an anterior vitrectomy, removal of a retro-prosthetic membrane, as well as funduscopy. In a 62-year-old man, endoscopy was used to visualize the anchoring of the optic. To estimate the visual potential before implantation, the optic disc and the retina were endoscopically examined in a 64-year-old man.

Results: Good visualization by the video endoscope was achieved in all cases: The video endoscope made it possible to check the prosthetic optic and its position under the difficult operating conditions. In case of a dense retro-prosthetic membrane or before implantation of the prosthesis, additional retinal pathologies could be excluded.

Conclusion: Intraocular imaging using a tear duct video endoscope is a useful intraoperative tool during the procedure of keratoprosthesis implantation and as well as revision. The newly gained intraocular perspective facilitates implantation and can be used in the surgical management of complications. It also allows retinal imaging before and after implantation of a prosthesis.



P069

A lost Lester Jones Tube gives a reason to do a CT scan

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Background: Conjunctivodacryocystorhinostomy (CDCR) with Lester Jones intubation is the method of choice with non-functioning lacrimal canaliculi. The tube needs to be rightly placed, in the right size, giving good draining into the nose, not irritating the caruncle and being able to move with facial expressions. Frequently the tubes fall out and need to be replaced.

Case report: We present a 39 year old woman which had CDCR with Lester Jones tube 2003 (straight glass tube, pyrex, John Weiss & Son Ltd, United Kingdom). The tube needed to be replaced two years later. The patient was then symptom free for a decade. In 2016 the tube fell out and was replaced the same year without problems. On the first post op visit the tube was sitting nicely with free flow to the nose. A month later, the patient seeks again with epiphora. She was not aware of the tube falling out. On examination it could not be found. She was referred to ENT surgeon who inspected the nose and the tube could not be found. It was therefore assumed that the tube had fallen out. The patient did not experience discomfort in the area.

Two years later the patient was referred to have CT scan of her head, by her general doctor because of unrelated headaches. The Lester Jones tube was seen on the CT scan, nicely placed, but deeply buried in adhesive tissues. It was therefore removed surgically without problems.

Conclusion: When Lester Jones tube cannot be found and the patient does not remember it to have falling out, there is a reason to believe that the tube might still be in place. That can be confirmed with a CT scan. It is important to localize the tube, to prevent later complications, also if another tube is to be inserted.

P070

Microendoscopic dacryoplasty - pros and cons

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Material and method: Patients with primary or partial primary obstruction of the nasolacrimal duct or canalicular stenosis, after diagnosis (clinical and radiological examination of epiphora) are treated on endocanal approach. The procedure is carried out in direct visualization using 2 types of microendoscopes with an external diameter of 0.6-0.9 mm either by stripping the mucosa (1.1 trephine) or by the microdrill provided with the endoscope.

Results: The technique allows a good visualization of the lacrymal way and a treatment adapted to the stenosed zones. Synechiaes and mucosal hypertrophies are treated by ablation, dilation (balloon) or simple pressure washing of micro-calculations with the endoscope. We used a standardized follow up at one week, one month and three months with syringing and probing, lacrymal sac massage and local corticoid treatment.

In most cases resolution of epiphora was obtained between the second and the third month after the procedure.

Discussion: The site of obstruction is often not corresponding with the radiological diagnosis. The procedure requires a learning curve (endocanal semiology, centering the image, advancing the endoscope in the punctum and canalicul without iatrogenic bleeding).

In our view, the working instruments accompanying the endoscopes are not optimal, and visualisation could be improved. The overall rate of success of the series is better than balloon dilation but inferior to external DCR.

Conclusion: Microendoscopic dacryoplasty is a safe technique, associated with minimal bleeding, rapid recovery, reduced postoperative discomfort and no major complication.

Technical improvement of the material and long time follow up could impose it on the gold standard surgical techniques of the lacrymal obstructions.



P071

Management of congenital dacryocystocele

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Purpose: To evaluate the success of probing after conservative management in the treatment of congenital dacryocystocele. Design Retrospective interventional case series.

Methods settings: Clinical practice. study population: Nine patients with congenital dacryocystoceles who presented between the years 2003 to 2018.

Results: All of the 9 patients included in the study were treated with topical antibiotics and digital massage. Resolution with conservative therapy occurred in 2 patients (22.2 %) and 7 patients (77.7 %) required surgical intervention. The mean age of patients undergoing probing was 48 (40-84) days. The probing was successful in all of them. Complete resolution was observed in all dacryocystocele patients without recurrence and without complications.

Conclusions: Patients with uncomplicated congenital dacryocele may respond to conservative treatment. In patients who are not responding to conservative treatment, excellent results can be obtained with early probing.

P073

Botulinum toxin for epiphora induced by presaccal obstruction

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Background: The aim of this study was to evaluate the application of botulinum toxin for treating epiphora induced by presaccal lacrimal duct obstruction as an alternative to lacrimal duct surgery.

Methods: At the Department of Ophthalmology of the Tauernklinikum Zell am See 15 patients suffering from presaccal lacrimal duct obstruction with consecutive epiphora were treated each with transconjunctival injection of 2 IE Vistabel® (Botulinumtoxin Typ A, Allergan, Parsippany, New Jersey) into the lacrimal gland. The subjective symptoms were evaluated with the OSD-Index and the Munk-Scale before injection and three months afterwards. These results were compared with the objective ones from clinical examinations (slit lamp, Schirmer-1-Test, Keratograph 5M®, Oculus, Germany).

Results: Both the subjective symptoms (OSD-Index, Munk-Skala) and the objectively measured parameters (Schirmer-1-Test, temporal/nasal conjunctival redness, NIK-BUT, corneal staining, tear meniscus height) showed a statistically significant improvement. Visual acuity and IOP did not change. In one case an iatrogenic ptosis occurred, disappearing after three months.

Conclusions: The application of botulinum toxin into the lacrimal gland constitutes a useful alternative therapy of epiphora induced by presaccal lacrimal duct obstruction. The interval of application of botulinum toxin can be adapted to the degree of discomfort.

Keywords: Epiphora Presaccal Lacrimal Duct Obstruction Botulinum Toxin

P074

A rare case of an ectopic meningioma in the orbit

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Background: A case report of a patient with an extra-cranial orbital ectopic meningioma, to demonstrate the radiological and histological features of this rare presentation.



Methods: A 58 year old patient was seen in the eye clinic at a tertiary referral centre oculoplastic clinic. He reported a 16 months history of left upper lid droopiness and swelling, and over the past 6 months had noticed a firm, well defined, painless lump in the medial aspect of his left upper lid. His vision was unaffected, and on examination he had a full range of eye movements, and no proptosis or displacement of the globe. An MRI of the orbits showed a well-demarcated lesion at the superomedial preseptal aspect of the left upper lid, measuring 12x8x9mm. There was no infiltration of surrounding tissues, post-septal extension or bony involvement seen on the MRI. The patient underwent a left eye anterior orbit excision biopsy where the lesion was completely excised intact. The specimen was sent to the cellular pathology department for diagnostic assessment.

Results: Histopathology of the lesion was suggestive of a WHO grade 1 meningioma, although the grading of extracranial meningiomas is uncertain. Primary ectopic intra-orbital meningiomas are rare, and there are few reported cases in the literature. The origin of the ectopic meningioma is uncertain in this patient.

Conclusion: Primary ectopic orbital meningiomas are a rare entity. Involvement of the neuroradiology MDT and appropriate imaging is recommended for the management of these cases. In this case the lesion was excised completely leading to a presumed favourable prognosis.

P075

A periorbital cellulitis case imitating lacrimal sac infection

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Purpose: To report the case of a periorbital cellulitis which imitates lacrimal sac problem.

Method: Case report.

Results: A 27-year-old male was diagnosed with periorbital cellulitis. There was swelling and redness around the right eye. Also, his right eye was watery and red. The mass, which was close to his medial canthus, was tender. Probing and irrigation of his right lacrimal system was not carried out. He was evaluated with CT. CT showed us that cellulitis was preseptal and lacrimal sac was unaffected. The patient was treated with IV antibiotics and eye drops.

Conclusion: Periorbital cellulitis can imitate dacryocystitis. In case of acute dacryocystitis, probing of lacrimal system is contraindicated. CT can be effective for evaluation of such cases.

P077

Comparison of the clinical management of two pediatric cases of massive orbital tumor with late presentation

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Objective: To describe clinical picture and management of two pediatric cases of massive orbital tumor with late presentation due to low socioeconomic status.

Method: Case report.

Case 1: A 5-year-old boy presented with a 12x13 cm exophytic right orbital mass. An incisional biopsy was performed and pathology was consistent with orbital embryonal rhabdomyosarcoma. The patient was given systemic chemotherapy and radiotherapy and underwent orbital exenteration.

Case 2: A 2-year-old boy presented with an exophytic mass in the left orbit with hemorrhage on the surface. Ophthalmologic examination revealed that right eye of the child was phthisical with no vision. Computerized tomography showed an orbital mass in the left orbit with calcification. The patient was asked for detailed history for right eye and previous pictures of the patient showed leukocoria in the right eye. After systemic chemotherapy the patient underwent orbital exenteration and the pathology was consistent with orbital retinoblastoma.



P078

Is quantitative analysis of optic nerve diameter and sheath ratio reliable in assessing optic nerve dysfunction?

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MRI Orbits are frequently requested to assess optic nerve dysfunction in the context of orbital pathology. Radiologists currently use subjective assessments of optic nerve sheath diameter (ONSD) and optic nerve diameter (OND) to diagnose optic atrophy (OA). Do objective measurements and asymmetry of the ONSD/OND ratio correlate with clinical signs of OA?

A retrospective study of MRI Orbits scans performed over 5 years in a tertiary centre. Data was collected from the Trust imaging system (PACS) and electronic medical records. ONSD and OND was measured by an ophthalmologist and neuroradiologist from coronal STIR or T2W scans.

ONSD and OND could be clearly measured in 100 of 129 scans reviewed. The most reliable point to measure was 3-5mm behind the globe. Asymmetry in the ONSD/OND ratio was noted in 31.6% (18/57) of patients with no clinical signs of OA but 62.8% (26/43) of patients with clinical signs of OA ($p=0.08$). However, there was statistically significant ONSD/OND asymmetry in patients with unilateral signs of clinical OA, with or without reported radiological signs of OA ($p=0.04$). Eyes with clinical signs of OA had a statistically significant increase in the ONSD/OND ratio compared to eyes with no signs of OA ($p=0.009$). Objective measurements of the ONSD/OND ratio correlate with clinical signs of OA but are only reliable 3-5mm behind the globe. ONSD/OND asymmetry is present in normal subjects but it is more frequent in eyes with optic nerve dysfunction, particularly in unilateral disease.

P080

Trochlear pain: An atypical sign of anterior clinoidal meningioma? A case report

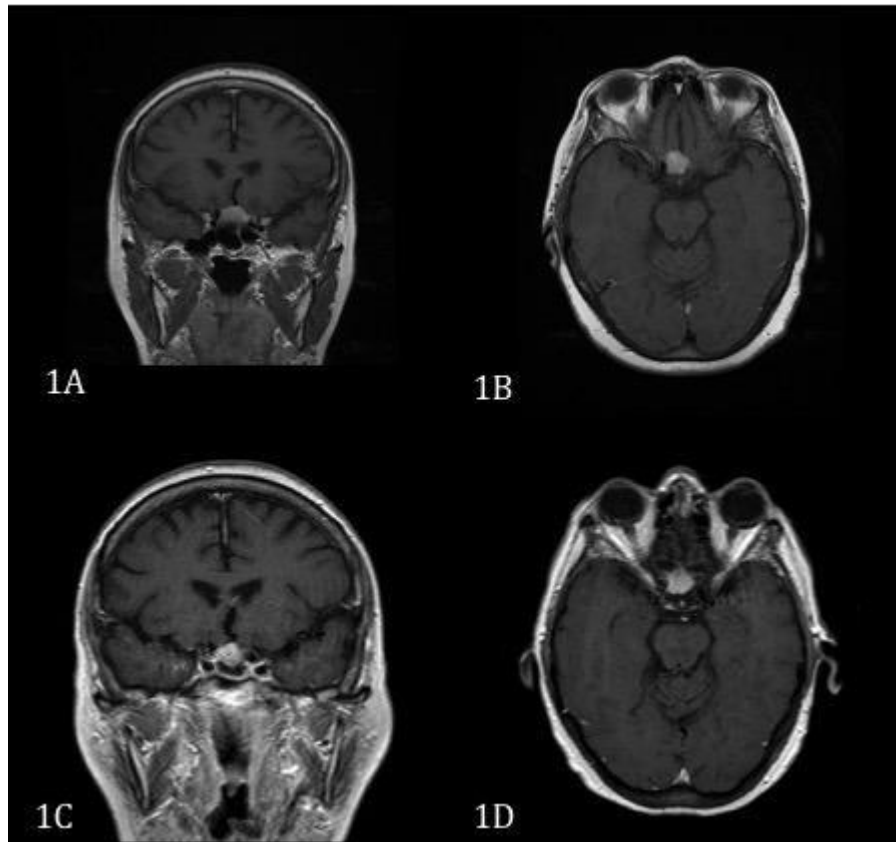
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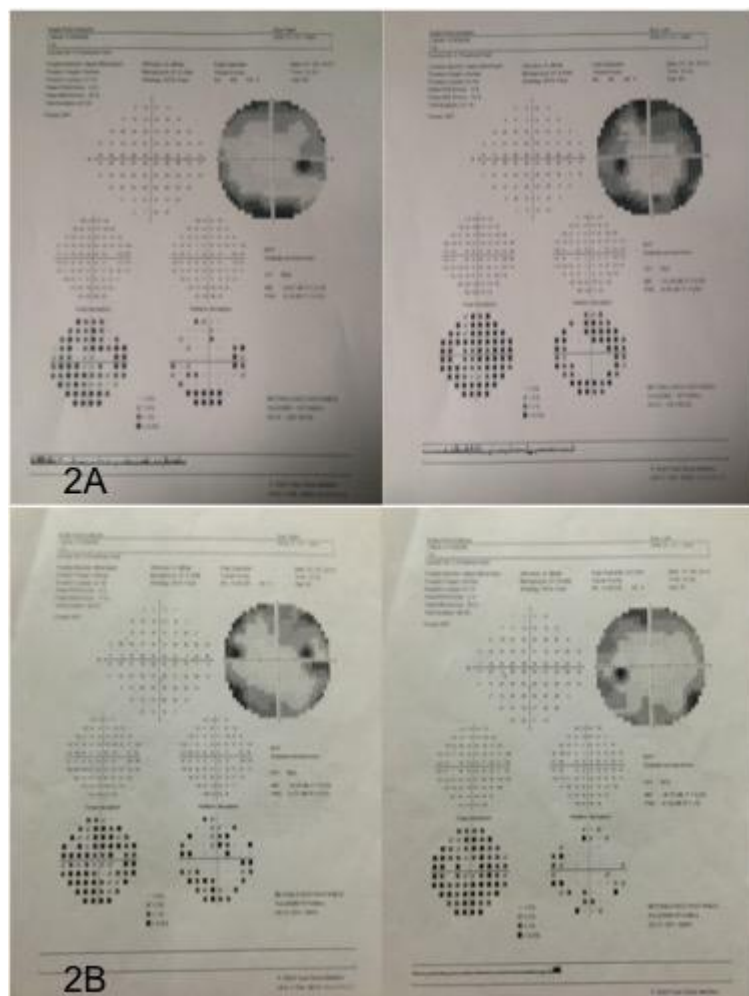
Objective: To present an atypical case with an intractable pain originating from trochlear area associated with anterior clinoidal meningioma.

Methods and Results: A 61 year old female presented with pain at the superomedial aspect of the left upper eyelid existing for three months. Visual acuity was 20/20 in both eyes and biomicroscopic examination, intraocular pressure measurement, fundus examination, extraocular muscle movements and light reflex examination were normal. There was no swelling and redness at the pain area and no significant history in terms of trauma, fibromyalgia, sinusitis, eyeglass usage, previous surgeries, psychiatric disorder and drug usage. All laboratory tests to exclude autoimmune, inflammatory, infectious and rheumatologic conditions were normal. Computed tomography and magnetic resonance imaging to exclude trochleitis or any other lesion revealed suprasellar meningioma. Concentric narrowing of the visual field was detected with standard automated perimetry. Following three sessions of stereotactic radiotherapy, the pain subsided and further treatment was not considered. The visual field analysis was better after treatment.

Conclusion: In patients with trochlear pain, in the territory of infratrochlear nerve, a terminal branch of ophthalmic branch of trigeminal nerve, suprasellar tumors, which invade the cavernous sinus, should be considered and imaging is the mainstay for diagnosis in these patients



[Coronal and axial images before (1A, 1B) and after treatment (1C,1D)]



[Visual field analysis of the patient before (2A) and after (2B) treatment]

P081

Orbital lymphoma masquerading as upper eyelid fat pad prolapse

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Background: We report a case of left orbital lymphoma presenting as presumed age-related medial fat pad prolapse.

Methods: A 79 year old female was diagnosed with left sided age-related aponeurotic ptosis and bilateral upper eyelid medial fat pad prolapse. Her extraocular motility was normal and there was no proptosis. She underwent left anterior-approach levator advancement with blepharoplasty. During the procedure an abnormal, retro-septal, firm, pink lesion was noted medially where there had been presumed fat pad prominence. Careful exploration of the lesion into the anterior orbit was undertaken and an incisional biopsy performed. The ptosis surgery and blepharoplasty were then completed as planned.

Results: Histopathology of the lesion demonstrated extra-nodal marginal zone lymphoma. Staging confirmed this was localised to the left orbit only. She underwent orbital radiotherapy (30 Gy in 15 fractions) which she tolerated well. Her eyelid healed well with good symmetry and the orbital lesion remains in remission.



Conclusion: Marginal zone lymphoma (MALT lymphoma) rarely presents in the ocular adnexa and as our case demonstrates, orbital lymphoma can present in an indolent fashion. The lack of orbital dysfunction and rather symmetrical appearance to her medial fat pads also contributed to its masquerade. Careful surgical dissection revealed the unsuspected but abnormal lesion, with biopsy and further investigation enabling successful treatment. It is therefore essential surgeons adapt their surgical plan according to the intraoperative findings to promote optimal, sight-saving patient outcomes.

P082

Bilateral orbital-cranio NF type I: two rare cases presentation

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Neurofibromatosis type 1 (NF1), also known as Von Recklinghausen's disease, is a relatively common autosomal dominant hereditary neurodermal dysplasia that affects multiple systems of the body with an incidence of around one in 2500 - 3000. The major defining features of NF1 are café-au-lait spots, peripheral neurofibromas, and Lisch nodules. All structures of the eye except the lens can be involved. Sphenoid wing dysplasia is one of the characteristics of NF1 affecting 5% - 10% of the cases, but not pathognomonic feature, it can also occur in isolated cases.

In this report, we present the clinical and magnetic resonance imaging findings in two patients with neurofibromatosis type 1, who had extensive facial involvement bilaterally. It is very rare to find tumours affect nearly all the face, with bilateral orbital involvement in the same patient.

P083

Our experience with orbital mucocels, focusing on 3 special cases

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Background: Mucocoeles are benign, mucous-secretory lesions. They expand due to a continuous mucous secretion. Progressive enlargement of the mass causes displacement of the surrounding tissues and erosion of the bony walls of the sinus cavity that can invade the orbit.

Methods: Case series, surgery techniques

Results: We review our general experience with 15 patients in a referral ENT and Orbital Department during the last 3 years. Then we focus on three special cases of them. In this presentation, we show the techniques of surgeries and how to obliterate the mucocoeles to prevent the recurrence of them. All 3 cases presented with proptosis. Two of them were frontal and another one was ethmoidal. The first case had three previous surgeries in other centres with recurrence. In the last and fourth surgery we obliterated the complete cyst without recurrence during the last 15 months.

The second one had one previous failed surgery and the third case was without any previous surgery. We followed up all three cases between 1-3 years and without any recurrences so far. We show the techniques of surgery.

Conclusion: Management of Orbital mucocoeles is a multi-disciplinary approach between Oculoplastic-orbital surgeon, sinus otolaryngologist and sometime neurosurgeon with different modalities. In our experience, we found intracranial approaches unnecessary almost in all of our cases.



[orbital mucocele]

P084

Orbital wall reconstruction using Cranioplastic Implant (acrylic PMMA)

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Blowout fracture defined as “ internal orbital fracture which does not involve the orbital rim”. blow out fracture cause loss of orbital wall tissue and structure. The patient often present with Pain, Enophthalmos, Hypothesis, Double Vision (Diplopia), Emphysema And Ecchymosis. The primary aim of the surgeon is to reconstruct the orbit as much as possible to restore the optimum anatomical and functional orbit wall. There are many materials (biological and manufactured materials) have been used, but still no answer till now for the question “ what is the best material to be used in orbital reconstruction ?”. The choice of particle material referred to the surgeon depending on preference/experience and patient safety. In this paper, we report using acrylic PMMA a material used as bone Substitutes in dentistry, neurosurgery, and orthopedic surgery as potentially safe material to be used in ophthalmology for orbital wall reconstructing. A three patient present to our department following motor vehicle accident having a blowout fracture, the inferior orbital wall reconstructed using acrylic PMMA material. On regularly follow up of the patients the implant seems to be successful on short-term follow up for 3 months complaining only from mild diplopia, these patients will be followed up to check for effectiveness.

Keywords: orbital floor fracture, implant material, orbital floor reconstruction.

P086

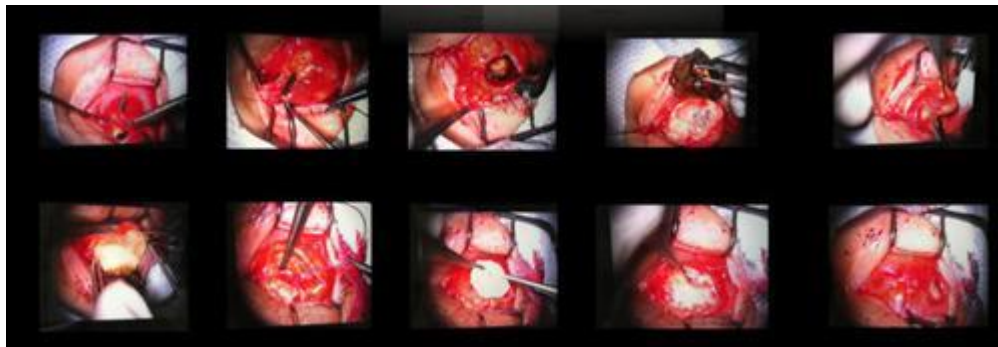
Novel technique of evisceration with using allogenic graft

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Objective: To evaluate the efficacy and safety of a novel technique of evisceration with using an allogeneic graft (cadaver material) from adipose tissue of a sole in experimental, clinical studies.

Methods: The experimental study was carried out on 18 adult chinchilla rabbits. The subject of studying was the morphological and functional condition of the socket. The clinical study included 46 patients in total. The novel technique was performed with the research group. The technique of evisceration using autograft was performed with the control group.



[Surgical procedure]

Results: Processes of fibrovascularization in the groups of animals are confirmed by signs of regeneration of integrated connective tissue. These processes involve the engraftment of an implant with the surrounding tissue. According to the criteria of objective examinations, there was a statistically significant higher cosmetic and functional result noted in the research group ($p < 0,05$).



[Result]

Conclusions: The application of the novel technique and allogeneic graft provides: orbital implant engraftment after the creation of effective vascular net for the fibrovascularization of implants; improvement of the socket and ocular prosthesis motility due to insertion of portions of muscle fibres through the implant; prevent migration, exposure, extrusion and infection of the implant. In addition, the biomaterial is generally available and doesn't require additional expense.



P087

Orbital exenteration for conjunctival melanoma

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Background: The treatment of conjunctival melanoma is most often conservative but exenteration is sometimes necessary in order to achieve local control of the disease. It can be performed as a primary procedure in cases of locally advanced disease or as a secondary procedure after one to several recurrences. No benefit of exenteration on patient survival has been demonstrated to date for conjunctival melanoma.

Methods: Single-centre retrospective study. We included all the patients who had orbital exenteration for conjunctival melanoma between January 2008 and January 2016.

Results: Thirty-two patients had an exenteration for conjunctival melanoma. The average age at the time of exenteration was 69.3 years old. Primary exenteration was performed in 7 patients. The maximum number of local recurrences tolerated before secondary exenteration was six. Twenty-one patients (84%) had a secondary exenteration after four or less than four local recurrences. Metastases occurred in 11 patients after secondary exenteration and were more common if there had been a greater tumour thickness on histology, if the tumour had not been treated initially in an ocular oncology centre and if there had been a greater number of local recurrences before secondary exenteration was eventually performed.

Conclusions: This study shows that early exenteration (i.e. after a number of local recurrences less than or equal to 4) may reduce the occurrence of metastases and improve patient survival in conjunctival melanoma.

P088

To analyse the intralesional use of bleomycin for orbital lymphangiomas and vascular orbital malformations

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Methods: Retrospective ,interventional case series of patients (24 cases)with orbital vascular malformations ,who underwent intralesional injection of Bleomycin. MRI SCAN with contrast of each patient was evaluated to measure lesion volumes before and after treatment.

Results: A total of 1 to 6 intralesional Bleomycin injections were used to treat the 24 cases. All 24 cases showed marked reduction with significant clinical improvement.

Conclusion: Based on our experience, we would like to suggest that Intralesional bleomycin could represent a significant step forward in the management of a condition that can prove very difficult to treat.

P089

Use of an artificial dermal template for the reconstruction of the exenterated sockets: 8 patients

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Objective: Orbital exenteration is a radical and disfiguring procedure usually performed for management of orbital malignancies. Socket reconstruction is challenging. Granulation by secondary intention, lid flaps, regional flaps or free flaps have been widely described in the current literature. Recently, the use of artificial dermal templates has been reported with favourable outcomes. The aim of this study was to report our



preliminary results with the use of dermal templates for exenterated sockets reconstruction.

Methods: A retrospective and unicentric study was carried out at the University hospital of Nice (France) from May 2018 to May 2019. Patients > 18 years old who underwent total orbital exenteration with the use of Integra dermal regeneration template (2 layers) for socket reconstruction were included. The silicone layer was removed 3 weeks after the surgery and the cavity was kept granulating by secondary intention.

Results: 8 patients (6 men, 2 females) with a mean age of 69,4 years (51-92) were included. Orbital exenteration was performed for the management of malignancies in all cases. Four patients (50%) underwent previous proton beam therapy. No complications during the surgery were encountered. The average post-operative hospital stay was 2.4 days (range: 1-4). Oral post-operative antibiotics were prescribed for 7 patients (87.5%). The patient (12.5%) without oral antibiotics developed at day 7 socket infection which required silicone layer removal and antibiotics prescription with favourable outcomes. No granuloma formation, sino-orbital fistula or post-operative pain was recorded. Total granulation of the cavity was obtained at 3 weeks for all patients. The average delay between orbital exenteration and total epithelialization of the cavity was 9 weeks (range: 6-14). Three patients (37.5%) underwent adjuvant socket radiation beam therapy (66 Gy) without complications. The mean follow-up was 6.4 months (range: 2-12).

Conclusion: Socket reconstruction with artificial dermal templates is promising. Long term follow-up is advocated.

P090

Non-malignant osteolytic orbital lesions (Egyptian experience)

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Objective: Orbital bony destructive lesions do not always mean malignancy. These could be Inflammatory, Autoimmune, Metabolic, Developmental, Structural or Vascular lesions. Even recurrence of benign lesion with bone erosion, like pleomorphic adenoma, do not always mean change to malignancy.

Methods: Through ten years period (Jan 2009 - Jan 2019) we presented (107) osteolytic orbital cases from two tertiary referral Hospitals (Maadi Armed Forces hospital and Tanta University Hospital), mechanism of their occurrence and their management.

Results: lesions were either present within bone (27) like Fibrous Dysplasia (12), Ossifying Fibroma (5), Aneurysmal bone cysts (6), Brown tumour (1), or Intraosseous cavernous hemangioma (3). Lesions from outside bone (80) like Dermoid and Epidermoid Cysts (19), Pleomorphic Adenoma (6), Langerhan's Cell Histiocytosis (15), hematic Cysts (6), Mucocoeles (20), Fungus Infection (8), Meningiocele (2), or Lymphangioma (4).

Conclusion: Orbital bone erosions do not always mean malignancy. Understanding pathogenesis and proper diagnosis of these lesions with multidisciplinary management will give our patients the best medical care.

P091

Unexpected foreign body in the orbital area with 10 - years follow - up: a case report

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Background: Trauma of the orbital area is common, but bullet as an orbital foreign body is really rare case. This case report with 10-years follow-up demonstrates an unexpected foreign body (bullet) in the orbital area without any intervention and complications.

Case Presentation: A healthy 12-years-old boy presented to the Hospital for the evaluation of orthodontic treatment necessity. He has no complaints except teeth crowding. Oral examination showed the patient



healthy. However, panoramic X-ray surprised because of contrasting element, CT scan was done in order to reveal the origin of foreign bodies. The objects looked like bullets and then the real story became true. 6 months ago children were playing and found air gun with bullets. One bullet was inserted and they put in another one. The gun shoot and bullets went through nose soft tissues and left in the orbital area. The lesion in the face was not big and it wasn't detected.

Results: Ophthalmological exam showed no injury signs extraocularly, normal visual acuity in both eyes. There were no inflammation signs, ocular motility was normal, fundus examination of the left eye showed dust like retinal pigment dispersion..

The patient was also consulted by radiologist, maxillo-face surgeon, neurosurgeon and it was decided to leave foreign body for observation without any interventions.

Recall appointments for ophthalmological exam were scheduled once a year until the patient reaches the age of eighteen or when clinical symptoms will occur. No new clinical signs were observed and no complaints were mentioned.

Conclusions:

1. CT is the best mode to evaluate localization, size, dynamics.
2. Priority should be given to the most logical treatment strategy.
3. Decision depends on such factors as foreign body position, material, size and clinical effects.
4. Posteriorly located foreign bodies without any clinical features should be left where they are in order to avoid serious complications..

P092

Necrotising fasciitis: insidious onset and contrasting outcomes

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Background: Our objective is to compare the natural history and response to treatment of Necrotising Fasciitis (NF) depending on delay in presentation, illustrated by two recently managed cases of periorbital NF, one presenting within 1 day and the other after 10 days post symptom onset. The clinical features and outcomes are contrasted. This rare condition has a 10% mortality and requires rapid detection and surgical management to optimise patient outcomes.

Methods: Retrospective case note review, looking at patient history, photos, systemic markers, ophthalmology assessment, radiographic findings and time to surgical debridement.

Results: (To include images of facial photographs and computed tomography)

Patient 1 presented after deep soft tissue trauma to the forehead, 1 day post symptom onset. He underwent urgent, extensive facial but posterior lamellar-sparing debridement. Following extensive reconstruction, he has since maintained adequate lid function.

Patient 2 attended 10 days following an alleged allergic reaction. Daily serial photos are presented, demonstrating the progression from initial erythema to early subtle necrotic pallor and finally the advanced classic lesions. Following the gradual development of a pustular rash and worsening pain, she eventually presented with light perception vision, a relative afferent pupillary defect, significant soft tissue oedema and foci of fluid collections extending to the orbital apex. She underwent an exenteration which achieved control of necrosis.

Conclusion: Where surgical debridement is undertaken promptly it is possible to preserve the globe - early signs that should raise suspicion include erythema followed by a greyish pallor to the skin suggesting necrosis, blistering rash, raised infective markers and finally evidence of necrosis on histopathology. Different anatomical planes of necrotic spread can influence orbital spread and consequently ophthalmological morbidity. A multi-disciplinary approach involving microbiology, ophthalmology, plastic surgery, ITU, clinical psychology and ocular prosthetists is crucial in optimising management of this aggressive and potentially fatal condition.



P093

Conjunctival mucosa-associated lymphoid tissue lymphoma with uveal involvement - report of a rare condition

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Introduction and objectives: Ocular adnexal lymphomas (OAL) and uveal lymphomas (UL) are rare and may be primary or secondary. The most frequent are mature B lymphomas of the extranodal marginal zone lymphoma of mucosa-associated lymphoid tissue (MALT lymphoma). OAL and UL can coexist in 15.9% of cases. The authors report the case of a patient with conjunctival lymphoma and coexisting UL.

Materials and methods: Man of 54 years, with conjunctival salmon patch lesion. He performed conjunctival photo, magnetic resonance imaging (MRI), indocyanine green (ICG) and fluorescein angiography (FA), OCT, conjunctival biopsy for histology, immunohistochemistry and flow cytometry (FC) of the lesion. For staging, he underwent computed tomography (CT) and medullary evaluation with myelogram and bone biopsy. He also performed *Chlamydia psittaci* serology.

Results and discussion: He has a conjunctival salmon patch lesion and multiple choroidal yellow confluent patches in the right eye. The left eye was normal. ICG revealed focal areas of non-perfusion hypofluorescence that are hypolucent placoid areas in OCT. MRI and *C. psittaci* were negative. FC: infiltration by lambda monoclonal B population, suggesting B lymphoma with lymphoplasmacytic differentiation. Histological examination of the biopsy material: connective tissue occupied by small lymphocyte towels. Immunohistochemistry: universal immunoreactivity with anti-CD20 antibodies, BCL2 and CD43. No immunoreactivity is observed with CD3, CD5, Cyclin D1, CD10, BCL6 and CD23. The morphological and immunophenotypic aspects associated with the clinical context are compatible with MALT lymphoma in the ocular conjunctiva. Bone marrow biopsy and CT were negative. The therapeutic option was chemotherapy followed by radiotherapy for lack of response of the first.

Conclusions: The biopsy of suspected conjunctival lesions and fundoscopy are essential for the diagnosis and evaluation of the extent of the disease; however, the indolent behavior of the lesions can lead to delays in diagnosis and treatment. The localized disease has a good prognosis.

P094

Stereolithography in reconstruction of post-traumatic orbital wall defects

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Objective: To describe the benefits of the stereolithography modeling system in the evaluation and surgical planning of post-traumatic orbital wall defects.

Methods: High-resolution computed tomography (CT) data were processed to create a three-dimensional (3D) image, on the basis of which an individual stereolithographic model with existing orbital wall defects was made. Next, an individual titanium implant was made, which had the shape and size necessary to repair the defects of the walls of the orbit. Five patients with post-traumatic orbital wall defects were treated using this technique. In two cases, the patients had anophthalmos, in three cases the patients had eyes, but the visual acuity was low. In one case, two titanium implants were manufactured, the first for replacing the defect of the lower and medial walls of the orbit, the second for replacing fractures of the upper wall of the orbit and the frontal bone. Repeated computed tomography was performed 4-6 months after surgery to assess the position of the implant.

Results: Enophthalmos was compensated or significantly reduced in all cases. According to the postoperative computed tomography, the titanium implant completely replaced the defects of the walls of the orbit, repeating the contours of the normal orbit.

Conclusions: Stereolithographic models allow to visually assess the volume of the defect, to plan in advance the surgical access. The individual titanium implants made on the basis of them accurately reproduce the contour of the orbit and, to the maximum extent, replace bone defects. This reduces operative time and improves the functional and aesthetic outcomes of post-traumatic orbital reconstruction.



P095

The safety and effectiveness of primary endonasal endoscopic medial orbital wall decompression to salvage dysthyroid optic neuropathy

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Objective: To evaluate the safety and effectiveness of medial orbital wall endonasal endoscopic decompression in patients with dysthyroid optic neuropathy

Methods: A retrospective study of patients notes who had endonasal endoscopic orbital decompression from 2010 to 2019 in Manchester Royal Eye Hospital in United Kingdom.

Results: A total of 15 patients (23 eyes, 9 females, 6 males) were identified. The mean age at the time of surgery was 63 years (range 37 to 82). Of these, 12 eyes underwent urgent orbital decompression for dysthyroid optic neuropathy. The remaining eyes underwent this surgery for elective rehabilitation of proptosis.

In all patients, visual acuity and colour vision were improved or stabilized following the surgery. The mean pre-operative visual acuity (VA) was LogMAR 0.66 (range 0.02 to 2.3) and the mean postoperative VA was LogMAR 0.31 (range 0.00 to 1.90). In patients who underwent urgent endonasal endoscopic orbital decompression for dysthyroid optic neuropathy, the mean pre-operative VA was LogMAR 0.83 (0.02 - 2.30) and the mean postoperative VA was LogMAR 0.20 (0.00 - 0.48). Therefore 83% (10/12) of eyes showed improvement in vision. Vision in the remaining eyes were stable. Seven out of 12 eyes showed preoperative relative afferent pupillary defect (RAPD) and 6 eyes (86%) showed reversal of RAPD after the orbital decompression. The patients who underwent this surgery for rehabilitative purposes also showed no deterioration in vision post-operatively.

One patient experienced transient diplopia following surgery. Despite maximal medical therapy, 3 eyes with active thyroid eye disease showed a continuous worsening of vision following endonasal endoscopic orbital decompression. All 3 eyes required more extensive orbital decompression.

Conclusion: Primary endonasal endoscopic medial orbital wall decompression is an effective in preventing visual loss secondary to dysthyroid optic neuropathy. The primary approach of this technique appears to be safe in urgent and elective settings.

P097

Anophthalmic socket management. Does local complications correlate with systemic comorbidity?

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Objective: To document the experience with anophthalmic socket management and analyze the factors influencing complications. Finally, correlate the complications ratio with Charlson Comorbidity Index (CCI).

Methods: Retrospective observational case series which includes 17 eyes from 17 patients who underwent anophthalmic socket surgery (eviscerations, dermis-fat grafts and secondary implant placements). All patients were operated by the same surgeon between 2015 and 2019. The clinical records were reviewed. Age, sex, systemic diseases, cause of surgery, surgical type, implant or graft characteristics, complications, secondary surgeries and follow up. Comorbidity was measured with CCI and correlated with complications rates.

Results: A total of 17 patients were operated, 59% male, age ranging from 26 to 93 years, 41% were right eyes. The main indication was painful blind eye. From all primary surgeries 88% (15 patients) were eviscerations. The average follow-up interval was 24,9 months. There were 5 cases of complications: 3 anterior surface rupture, 1 infection, 1 conjunctival cist. There were occurred in average 5,9 months after surgery (between 1 week and 2 years). Three cases required a secondary surgery and one a third. Patients with a CCI>5 presented an Odds Ratio (OR)=8 compared with patients with CCI≤5 (CI 95% 0,66 - 97,32).

Conclusions: Complications seems to be strong related to the rate of systemic disease, in spite of not achieve statistical significance. Our results suggests the need for high-quality prospective studies with longer follow-up and larger sample size in order to get better evidence. Charlson comorbidity index is an easy tool that could be added to the initial approach of every patient who need an anophthalmic socket surgery.



P098

Predicting potential of Anti-TSH-Receptor-autoantibodies (TRAb) measurements for the course of Grave's hyperthyroidism and orbitopathy depending on the assay technology

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Aim: To evaluate the predicting potential of TRAb measurements with three different assay systems concerning the course of orbitopathy (GO) and hyperthyroidism (GD) since assay technology to measure TRAb has improved significantly in the last years due to monoclonal antibody use, bridge technology and availability of a commercial cell-based bioassay.

Methods: GD Patient sera were evaluated with TRAb Elecys (Cobas Roche) and TRAb bridge assay (Immulate, Siemens). The bioactivity of the anti-TSH-receptor stimulating immunoglobulins (TSAb) was assessed in the cell-based bioassay (Thyretain, Quidel). To identify relapse risk of hyperthyroidism follow up data one year after cessation of at least 10-12 months of antithyroid drug therapy must have been available. Course of GO (mild/severe) was classified with the NOSPECS score 12 months after the beginning of the disease.

Results: For the course of GO complete clinical data were available for n=238 patients: For the course of GD relapse remission rates (24months follow up) were available for n=117 patients. At 90% specificity level predictions (cut of levels) for relapse of hyperthyroidism were possible between 6 -18 months after the beginning of antithyroid drug treatment for about 50-60% of the patients with all three assays. Prediction of remission was not possible. Comparable predictions could be made for the course of orbitopathy within the first 12 months of the disease (slightly lower sensitivity levels (40-50%)). Thyretain assay consistently showed higher percent positivity than the other TRAb immunoassays.

Conclusion: Patients at risk for severe course of thyroid disease and orbitopathy could be identified with high TRAb levels. Contradictory no predictions are possible for patients with low TRAb levels. Results are in line with the results from the 2nd generation human TRAb assay however 3rd generation assays are slightly more sensitive. The bioassay maintains sensitive even in late disease stages revealing persistent TSHR stimulatory activity.

P099

Ciliary body melanoma with metastases to an extra-ocular muscle of the contralateral orbit

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Objective: To report a rare case of contralateral orbital metastasis of a ciliary body melanoma 3 years after enucleation.

Methods: Review of clinical records, fluorescein angiography, fundus and clinical photos and survey of past literature.

Results: A 55-year-old man presented to the emergency department with decreased visual acuity (VA) of the left eye. On examination, visual acuity was 20/25 in his right eye and CF in his left eye. Anterior segment exam demonstrated an irregular pupil, conjunctival hyperemia with dilated inferior conjunctival vessels. Fundus exam demonstrated a large inferonasal orange mass. A UBM and B-scan confirmed a ciliary body mass with a base diameter of 17.5mm and height of 9.14mm. A diagnosis of a ciliary body melanoma was made, and an enucleation was performed. The diagnosis of a left uveal melanoma arising from the ciliary body was confirmed by pathology. Oncologic work-up showed no evidence of systemic disease. Postoperatively the patient remained stable until 3years later, when he again presented to the emergency department with a headache. A CT head-imaging revealed an enhancing mass within the right medial rectus muscle measuring 19x13mm. He underwent an orbitotomy and open biopsy which confirmed metastatic melanoma. Further systemic workup showed metastasis to the lungs, liver, adrenals and lymph



nodes. The right medial rectus mass was treated with radiation and later by debulking surgery to relieve pressure on the orbital apex. Chemotherapy was then instituted and later Pembrolizumab was added because of progression. Unfortunately, the patient passed away from his metastatic disease two years later.

Conclusions: This case describes an interesting and rare disease, and also highlights possible occurrence of a contralateral orbital metastases years after treatment of the primary tumor. Literature review showed that choroidal melanoma metastasizing to the contralateral orbit is exceedingly rare and even more exceptional from a ciliary body origin.

P100

Malignancy rate in Neurofibromatosis Type 1 (NF 1)

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Neurofibromatosis type 1 (NF1) is an autosomal dominant disorder, the cardinal feature of which is the development of multiple peripheral nerve sheath tumors called neurofibromas. Other characteristics include pigmentary changes in the skin, skeletal anomalies, and learning disabilities. Although neurofibromas are benign tumors, malignant peripheral nerve sheath tumors (MPNST) may occur. In addition, gliomas, particularly pilocytic astrocytomas of the optic nerve, and leukemias, are seen with increased frequency in the NF1 population.

Although only a minority of patients with NF1 develops malignancy as a complication of their disorder, cancer remains an important cause of morbidity and mortality in the disorder. This review will focus on the malignant complications rate of 160 NF1 patients, who are under the care of the Craniofacial and Ophthalmology department, at Chelsea and Westminster Hospital Foundation Trust. Methods used, apart of imaging are based on histology reports of lesions excised following debulking operations.

P101

Management of fronto-orbital mucocele with eyelid crease incision and hemovac drain

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Background: Mucoceles are slow growing cyst like lesions filled with mucus and are outlined by respiratory epithelium. They may cause bony destruction and displacement in the adjacent orbit. Historical treatment modality involves total excision of the lesion which may require extensive surgery especially in cases with intracranial extension.

Methods: We describe selected cases of fronto-orbital mucoceles treated with less invasive orbital surgery.

Results: As opposed to the transcranial approach used by neurosurgery and endoscopic approach used by ENT specialists, eyelid crease incision was used to reach the mucocele and also allowed hemovac draining for the evacuation. No recurrences were observed.

Conclusion: Minimal morbidity from the surgery and the prevention of recurrence are the main goals of treatment and is achieved by a nonvisible surgical scar and by allowing vacuumed drainage of the mucocele postoperatively.



P102

The role of collaboration between ophthalmic plastic surgeons and ocularists in the co-management of anophthalmic patients

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To investigate the opinions of ocularists regarding the role of collaboration with ophthalmic plastic surgeons we present the first ocularist survey-based investigation of this important relationship. We distributed an electronic survey to 257 practicing and retired members of the American Society of Ocularists regarding collaboration with ophthalmic plastic surgeons. Our goal was to elicit their perspectives regarding communication with surgeons, patient education, implant size, eyelid position at time of referral and selection of surgical materials and techniques. We had an 15% response rate (38/257). 98% of respondents worked in USA/Canada, 60% had 30 years or more of experience and 75% received referrals from 5 or more ophthalmic plastic surgeons. 87% reported that collaboration with ophthalmic plastic surgeons was critical to successful patient outcomes, while only 68% reported that collaboration was “always” or “often” adequate. 47% stated that patient education prior to referral for first visit was inadequate, 34% reported difficulty contacting referring surgeon, and 10% reported that their concerns were not taken seriously by the surgeon. Regarding size of implant, 55% reported problems with size of implant, with 37% reporting too large, 25% too small, and 37% variable. 50% reported problems with lower lid laxity or upper lid ptosis upon initial evaluation. Ocularists identified “good surgical technique” as the most important factor in technical success. They preferred acrylic, bio-integrated, and porous implant materials. Pegging was the least desirable technique. Our data suggest that while the majority of ocularists are satisfied with the level of collaboration, there remain opportunities for improvement in ease and quality of communication, patient education prior to referral, as well as improved selection of surgical materials and techniques. We suggest future research, including survey of patients' perspective, is needed to improve the quality of care we offer to patients who have experienced globe loss.

P103

Sirolimus for the treatment of orbital lymphaticovenous malformations

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Background: Lymphaticovenous malformations (LVMs) are benign collections of thin-walled lymphatic and vascular channels isolated from the hemodynamics of the arterial and venous systems. These unencapsulated lesions intertwine with normal surrounding tissue, creating spaces that can bleed spontaneously. Historically, treatment modalities have included observation, systemic steroids, sclerotherapy, and surgery. In recent years, mTOR inhibitors, such as sirolimus, have shown promise in the treatment of vascular abnormalities. Here, we present two cases highlighting the successful ongoing management of LVMs with sirolimus.

Methods: Case series of patients with orbital lymphaticovenous malformations treated with sirolimus.

Results: Case 1 - 3-year-old otherwise healthy male first seen in August 2016 for management of ptosis associated with left LVM. At that time, the patient had mild ptosis and was observed without treatment. In January 2018, growth of the LVM was noted with worsening of ptosis. Axial T2-weighted MRI demonstrated a linear cluster of well-demarcated, hyperintense foci consistent with an LVM. The patient was started on sirolimus 0.7mg daily and noted to have significant improvement within 2 weeks of initiation of therapy. Continued improvement while on sirolimus has obviated the need for ptosis repair. Case 2 - 6-year-old male with history of autism referred with worsening pain and swelling of his right LVM. Associated signs and symptoms included chronic right nasal congestion, upper lip numbness, ptosis, amblyopia, and episodic painful swelling. He was previously deemed not to be a candidate for sclerotherapy given



microcystic component of lesion. Exam and imaging were notable for an expanding conjunctival component and subconjunctival hemorrhage. Following unsuccessful treatment with steroids, sirolimus 2mg daily was initiated. Within a week of starting sirolimus, a notable response was observed therapy continues to date.

Conclusions: While the management of orbital LVMs remains challenging, mTOR inhibitors, such as sirolimus, offer a promising new treatment modality.

P104

Orbital and ocular trauma in a metropolitan eye casualty - who, what, when, where and how?

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Objectives: Orbital and ocular trauma are a significant cause of attendances to casualty departments and often require multi-disciplinary management. There is relatively little peer reviewed published literature on patient demographics and causes of trauma in the UK as well as outcome and onward referral data within and outside the specialty. Our study aims to assess these to improve future service planning.

Methods: We conducted a retrospective cohort study. All patients attending any emergency department at Imperial College Healthcare NHS Trust between April 2017 and March 2018 with a coded discharge diagnosis of an ocular or orbital injury were included. Data was obtained on the patient demographics and cause and nature of their eye injury. Investigations, procedures and onward referrals/assessments were also evaluated.

Results: 248 patients met the inclusion criteria, 0.5% of all casualty attendances that year. There were significantly more male than female patients (74%, $p < 0.0001$) and mean age was 36 years (range 4-89 years). 14% were under 18. 67% of patients had an ocular injury, 21% an orbital injury and 13% of patients had both orbital and ocular injuries. The most common diagnosis was traumatic uveitis (123 patients, 50%). Assault was the most common cause of injury (80 patients, 32%). A significant majority of patients required follow up (86% $p < 0.0001$), 17% in A+E, 16% in uveitis, 5% in glaucoma and 21% in other eye clinics. 41% of follow up was with oral and maxillofacial surgery in another hospital and 2% with other specialties.

Conclusions: Our study illustrates the burden of trauma on both emergency and elective eye services. We hope that by better understanding our patient population, we have optimised resource utilisation including a better pathway between oral and maxillofacial surgery and ophthalmology and can recommend targeted intervention to reduce the number of patients requiring casualty assessment.

P105

Demographic and prognostic factors of ocular melanoma in Taiwan

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Purpose: To determine the demographic and prognostic factors of ocular melanoma in Taiwanese patients

Method: This was a retrospective chart review study. We enrolled patients with ocular malignant melanoma, who received operation with pathological proof. All patients were followed up for more than 6 months after pathological diagnosis, and total enrolled period was from 1973/2/9 to 2017/12/31. Demographic data such as gender, age, laterality, and pathological T staging according to AJCC 8th edition were recorded. 5-year survival rate and distant metastases were documented.

Result: A total of 72 patients were enrolled, mean age was 54.6 ± 14.6 years old (range 24-100), and male consisted of 47.2% of total patients. All the patients were Chinese ethnicity. Histology type could be categorized into 3 different types: epithelioid (26.4%), spindle (19.4%), and mixed type (54.2%). According to AJCC 8th edition classification, there were 11 (15.3%), 27 (37.5%), 24 (33.3%), and 10 (13.9%) patients in the T1, T2, T3, and T4 stages, respectively. Total metastases rate and death rate was equal, which was 40.3%, and 5-year overall survival was 70.8%. The mean time from diagnosis to distant metastases was



36.7 months. The most common metastases organs were liver (75.9%), bone (17.2%) and lung (3.4%). Mean duration

from metastases to death was 4.5 months. Non-epithelioid type and less advanced T stage were associated with better 5-year survival rate according to multivariate analysis.

Conclusion: The demographic data such as age and gender was compatible with previous studies. AJCC 8th edition staging was validated in Taiwanese patients successfully. Total metastases rate was 40.3%, and 5-year overall survival was 70.8%. The most common metastases organs were liver and bone. However, epithelioid type of histology was less than previous reports, but also associated with unfavorable outcome.

P107

Surgical management of an orbit-eroding mucocoele secondary to frontal-ethmoidal sinus inverting papilloma using stereotactic navigation

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Objectives: To describe orbit-eroding mucopyoceles as a rare complication of sinonasal inverted papilloma and surgical management by a combined nasal endoscopic and sub-brow anterior orbital approach.

Methods: Surgical case report

Results: A patient with recurrent inverted papilloma in the ethmoid and frontal sinuses developed a frontal sinus mucopyoceles which eroded into the orbit, causing rapid-onset proptosis, exposure keratopathy, and pain. The patient deferred management by osteoplastic flap and craniotomy. Instead, he elected to proceed with a combined otolaryngologic-orbital approach.

The papilloma was debulked by functional endoscopic sinus surgery, with care not to disrupt the mucopyoceles. Sub-brow approach for anterior orbitotomy was then used to explore, excise, and drain the mucopyoceles, with assistance by stereotactic navigation. Following complete dissection of grossly visible respiratory epithelium from the periorbitum, attention was turned to areas of bony erosion and exposed dura mater. The fistula created by mucopyoceles erosion was entirely visualized by nasal endoscopic and orbital approach. Sheets of gelatin sponges were soaked in gentamicin and placed to cover exposed dura mater and all of the orbital roof bone. Fibrin sealant was applied to the superior orbit and gentle pressure was applied to the globe to seal the orbit. There was no evidence of papilloma on nasal endoscopy performed at one- and two-weeks post-surgery.

Conclusions: Orbit-eroding mucopyoceles is a rare complication of sinonasal inverted papilloma that has only been described once in the literature. Craniotomy is often preferred for inverted papilloma that extensively involves the frontal sinus, but we achieved complete excision by combined endoscopic and anterior orbital approach. Orbital mucocoeles excision is a novel application of stereotactic navigation, and the use of gelatin sponges to provide structural support during osteogenic repair of bony erosion should prevent scarring between periorbitum and dura mater, thereby simplifying future dissection if it becomes necessary.

P108

Evisceration versus enucleation: from indications to aesthetical results and patient satisfaction

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Background: Evisceration (EVI) and enucleation (ENU) are ultima-ratio-options for patients with painful blind eye, persistent and aggressive panendophthalmitis or tumour. Although these operations result in loss of the eye, it is important to choose the optimal operative technique and right implant size in order to assure the best postoperative results.



Methods: We retrospectively analysed the files of all patients' undergone evisceration or enucleation in our department between December 2012 and December 2018. The indication, implant size and complications were analysed.

Results: Evisceration was performed in 40 cases and enucleation in 10 cases. The most frequent indication for evisceration was corneal melting (n=17; 34%), followed by painful blind eye (n=15; 30%) and phthisis bulbi (n=11; 22%). Enucleation was most frequently performed in panendophthalmitis (n=3; 30%), painful blind eyes (n=3; 30%) and tumours (n=2; 20%). No intraoperative complications were reported. Postoperatively, fornix shortening (EVI=3; 7,5% versus ENU=0), lower eyelid ectropium (EVI=2; 5% versus ENU=0) and prosthesis extrusion (EVI=1; 2,5% versus ENU=1; 10%) occurred. All complications could be resolved by minor eyelid corrections, respectively removal of the implant and fat grafting.

Discussion: Evisceration and enucleation are both valuable therapeutic options, with few postoperative complications. Satisfactory aesthetical results with care for the prosthesis motility and comfort are important and contribute to a better (psychological) rehabilitation of the patient.

P109

Incongruous improvements in acquired dyschromatopsia and visual field changes in thyroid eye disease-compressive optic neuropathy treated with radiotherapy

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Background: Compression of the optic nerve can be associated with acquired dyschromatopsia and visual field (VF) changes. It is known that macular cone density is higher than the retinal periphery, however the precise relationship between dyschromatopsia and VF defects in thyroid eye disease and compressive optic neuropathy (TED-CON), is not well established. The purpose of this study was to evaluate the relationship between color plates (CP) and VFs pre- and post-radiotherapy in TED-CON.

Methods: Retrospective analysis of 113 orbits. VF defects were estimated by mean deviation (MD) on Humphrey 24-2 and CP deficit on Hardy-Rand-Rittler (HRR) pseudo-isochromatic plates. Statistical analysis included Pearsons Correlation and two-sample T-test with an alpha of 0.05.

Results: In general, VF deficits do not show an association with CP (R=0.47). In particular, severe VF deficits less than -10MD showed dramatic CP loss. Post-treatment (avg. 79.8d follow-up) demonstrated CP and VF improvement with an upward shift to ≥ 2 HRR plates. 29/113 (25.7%) demonstrated an incongruous relationship; 5 with isolated CP improvement, 4 with isolated VF improvement, 2 with isolated CP worsening, 14 with isolated VF worsening, and 3 with CP improvement *and* VF worsening, irrespective of change in visual acuity (VA). VFs that improved had significantly worse pre-treatment MD vs. VFs that worsened (p=< 0.001). Isolated CP improvement (+55.4%) had an average pre-treatment HRR of 2.5 (vs. 3.98 for all orbits).

Conclusions: The larger VF deficits with isolated improvement indicates a compressive effect severe enough to impact both peripheral and papillomacular optic nerve arcuates. Treatment therefore, may provide release only to the non-central components, resulting in unchanged CP. The converse may be true for isolated CP improvement. The lack of association with VA is known in optic neuropathy [1]. A closer examination of blue-yellow vs. red-green HRR or 10-2 VF would provide added foveal/para-foveal discrimination [2].



P110

Outcomes after eye sparing surgery vs. orbital exenteration in patients with lacrimal gland carcinoma

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Objective: The study question was whether eye-sparing surgery is associated with better or worse outcomes compared with exenteration for the treatment of lacrimal gland carcinomas.

Methods: 46 patients treated for lacrimal gland carcinoma were retrospectively reviewed and compared. The statistical analysis was performed using Kaplan-Meier plots.

Results: Overall survival for eye-sparing was 52 % and 37 % at 5 and 10 years, for exenteration was 37 % and 25% at 5 and 10 years ($p = 0.73$). The local regional control for eye-sparing at 5 and 10 years was 0.75, for exenteration was 0.47 ($p = 0.30$). For eye-sparing, the distant metastasis free survival at 5 and 10 years was 0.51 and 0.39, for exenteration was 0.29 and 0.14 ($p = 0.50$).

Conclusion: Since the outcomes were not statistically different between the two groups, the authors suggest that eye-sparing can be proposed as a reasonable approach for lacrimal gland carcinomas.

P111

Extraocular muscle involvement in Marginal zone B-cell lymphomas

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Background: Marginal zone B-cell lymphoma (MZBL) is the most frequent ocular adnexal lymphoma. It may involve the conjunctiva, lacrimal gland, eyelid, extraocular muscle, and orbital connective tissue. Extraocular muscle infiltration is rare.

Methods: We report 3 patients presenting with extraocular muscle infiltration due to marginal zone B-cell lymphoma.

Results: Two female and one male. The median age of presentation was 61 years. The extraocular muscle involvement, one lateral rectus muscle, one inferior rectus muscle and one levator muscle. Diplopia was the main clinical signs, and ptosis when levator muscle was infiltrate.

A 51-year-old male presented a temporary conjunctival lesion in the right eye and a right VI paralysis. In the resonance magnetic (MRI) was an infiltration of the lateral rectus, a biopsy was performed to him that was a MZBL. He was IE-A Ann Arbor's stage. He was treated with radiotherapy that resolved his pathology.

Woman 67-year-old, was diagnosed of a systemic MZBL IV-A Ann Arbor's, which was in remission. Two years later, a diplopia appeared with restriction of the right lower rectum. The MRI a thickening of the lower rectum was seen. Upon suspicion of a relapse of the lymphoma, a positive biopsy was performed for the MZBL lymphoma, which remitted with chemotherapy.

The last woman 65-year-old, had a ptosis in the right eyelid, in RMI a mass was appreciated in the levator muscle, in the biopsy performed a MZBL was found. A IV-A Ann Arbor's stage was evidenced. She was treated with Rituximab.

Conclusion: The involvement of the extraocular muscle by a lymphoma is a rare location. It must be known well to avoid a delay in the diagnosis, because it can simulate a thyroid orbitopathy, ptosis, etc. Whenever extraocular muscle enlargement is noticed in patients more than 50 years of age, a surgical biopsy should be realized.



P113

The modified method of evisceration and its safety assessment

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Objective: It is known that the incidence of sympathetic ophthalmia after evisceration associated with inadequate surgical technique complicated by the preservation of the remnants of uveoretinal tissue bearing autoantigens.

The purpose: safety analysis of a modified evisceration technique with the use of radio-wave surgery.

Material and methods: Evisceration with posterior pole resection of sclera and neurectomy was performed in 270 patients aged from 23 to 62 (m=39.8). with the outcome of penetrating injury, subatrophy, chronic posttraumatic uveitis.

Evisceration with posterior pole resection of sclera and neurectomy was performed in all patients. Most of the stages of the operation were made by the method of radio-wave surgery: the incision of the conjunctiva and the sclera, excision of the posterior pole of the sclera and its extension, coagulation of emissaries.

Modified stage included radio-wave resection of the inner layer of the sclera (1 mm thick) with intimately soldered uveal tissue.

The scraping of the inner surface of the sclera in different areas was performed before (after classical evisceration) (group 1) and after radio-wave resection of the sclera (group 2) in 13 patients. Cytological examination of the collected material was performed.

Follow-up period is up to 4 years (m=1.9 years).

Results: Postoperative functional and cosmetic results were positive. There were no cases of sympathetic ophthalmia.

Cytological material taken from the group 1 included the following types of cells: melanocytes, epithelial cells, erythrocytes and fibroblasts. The following elements were detected in the material taken from the group 2: erythrocytes, fibroblasts and myxomatous substance. Pigment tissue elements were not found in this material.

Conclusion: A modified method of evisceration using the radio-wave surgery for resection of the inner sclera layers allows you to completely remove all possible residues of melanocytes. The security of operations is improving and the indications are expanding for it.

P114

Ig-G4 related disease with atypical ophthalmic features

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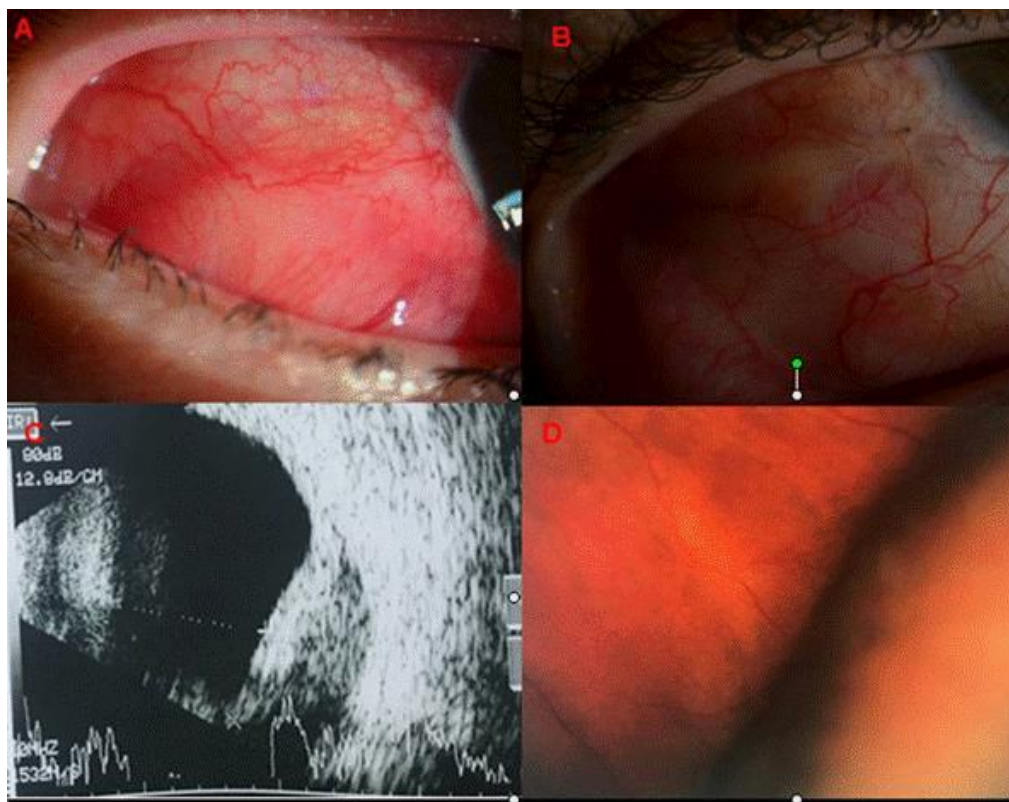
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Objectives: IgG4 related disease (IgG4- RD) is characterized by a multiorgan lymphoplasmacytic infiltrate with IgG4 staining. Ophthalmic involvement typically presents with idiopathic orbital inflammation and sclerosing dacryoadenitis. This study aims to report an atypical case of IgG4-RD revealed by subconjunctival infiltrated mass other than lacrimal and orbital infiltration.

Methods: Case report.

Results: A 62 year-old woman referred to our department with a 6 month history of unilateral conjunctival and scleral infiltrated lesion at the infero-temporal scleral region (Figure1A). Ocular USG imaging depicted 12*7*15 mm hypoechoic episcleral mass (Figure1C) and ocular fundus photography revealed peripheric retinal indentation of the lesion at the infero-temporal region. (Figure1D) T2-weighted MR imaging depicted hyperintense lesion. During the biopsy procedure, thick and fibrous lesion adhering the sclera was found. Histopathology demonstrated lymphoplasmacytic proliferation with overexpression of IgG4 plasma cells. Serum IgG4 level was slightly elevated. There were no signs of systemic involvement including the lacrimal gland, salivary gland, and pancreas. Patient was started on a high dose of corticosteroids with long tapering and maintenance dose 8 mg/d of prednisone in order to obtain remission, to lower relapse rate . The height and area of the lesion and chemosis diminished clearly. (Figure1B)

Conclusions: IgG4-RD is a new and rare entity and it should be suspected in the face of any chronic inflammatory ophthalmic manifestation, after excluding more frequent alternative diagnoses.



[Features of the subconjunctival and scleral infiltrative lesion]

P115

The epidemiology of thyroid eye disease in New Zealand

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Objectives: This study was conducted to describe the epidemiology of Thyroid Eye Disease (TED) in New Zealand. The condition has not been studied in detail in this population with the most data available from the northern hemisphere. The focus was on gender, age, ethnicity and severity measured via CAS scores.

Methods: Patients with TED seen over the last 14-year period at a combined Ophthalmology-Endocrinology clinic in Auckland were used a database in this retrospective study. A total of 161 patients had data such as age, ethnicity, gender, clinical activity score and smoking status extracted and analysed.

Results: 161 subjects were included in the study. Age at onset 47.0 ± 15.1 years and 77.6% of the subjects were female. Crude yearly incidence of TED (per 1,000,000) was 12.6 in non-smokers and 67.3 in smokers ($p < 0.001$). On univariate analysis, female gender, Maori ethnicity and smoking were associated with incidence of thyroid eye disease. However, on multivariate analysis, female gender and smoking status were associated with risk of TED, and the difference in ethnicity was explained by smoking status. Maori subjects with TED were significantly more likely to be current smokers (72.7%) compared to European (39.2%), Pacific Peoples (33.3%), Asian (8.3%) and Other (12.5%). Median clinical activity score was 1 (IQR 0 - 3). Maori ethnicity and current smokers were associated with a higher clinical activity score at presentation ($p = 0.049$ and $p = 0.027$ respectively).

Conclusions: A strong association was demonstrated with female gender and smoking status and rate of



TED. Maori have increased rates of TED however this difference was explained by smoking status. Eliminating smoking would result in at least a 28.1% reduction in TED incidence in New Zealand.

P116

Outcome of orbital abscess: a conservative approach

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Background: Orbital cellulitis and abscess are vision and life threatening. Treatment of these entities are controversial without an algorithm specified. In this study our aim was to evaluate our antibiotic treatment results, and to assess the ratio of the orbital or globe volume to abscess volume, as a criteria for surgery.

Methods: Chart and images of the patients that referred to Uludag University, Department of Ophthalmology between August 2017 and April 2019 were retrospectively reviewed. Referral duration, hospitalization duration, treatment modalities, consultations, orbital, globe and abscess volume were noted.

Results: Twenty (12females,8males) patients with orbital abscess/phlegmon were treated uneventfully.

Ten were under 18 years-old. Predisposing factor was sinusitis in 16, dacryocystitis in 2, dermal filler injection in 1 and traumatic globe perforation in 1 patient. Mean age was 24.3 ± 21.3 years, mean referral time after symptom onset was 3.3 ± 2.7 days. Abscess/phlegmon localization were subperiosteal in 12, orbital in 8 patients. Fifteen patients were treated with systemic antibiotics. In children referral time was found to be correlated with abscess volume ($R:0.872, p=0.001$). Regarding patients treated with systemic antibiotics, referral duration was correlated with hospitalization duration ($R=0.707, P=0.003$). Referral duration and hospitalization duration were correlated with abscess volume ($R 0.591, p=0.02$; $R=0.791, p<0.001$). The ratio for the orbital and globe volume to abscess volume were significantly lower in operated group (Table1).

Conclusions: Most of the patients were treated with systemic antibiotics solely. The collaboration with infectious diseases is beneficial. The volume ratio of the abscess and the orbita can be a helpful parameter in the decision making. Further studies with larger cohort are needed.

	Age	Referral duration	Hospitalization duration	Orbital volume/ Abscess volume	Globe volume/ Abscess volume
Abscess drainage	19.4 ± 10.2	3.8 ± 3.1	17.0 ± 10.9	3.0 ± 1.1	1.2 ± 0.4
Systemic antibiotic solely	25.9 ± 23.9	3.1 ± 2.7	19.9 ± 12.5	21.3 ± 17.2	8.2 ± 7.4
P value	0,930	0,789	0,539	0,008	0,008

[Table 1: Comparison of the ratio of orbital or globe volume to abscess volume in groups]

P118

Traumatic orbital haemorrhage: a 15-year review at a tertiary trauma centre

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Background and Purpose: Orbital hemorrhages are potentially vision-threatening consequences of facial trauma. We aim to report the characteristics of traumatic orbital haemorrhages encountered at a tertiary trauma centre and incidence of orbital compartment syndrome requiring decompression.



Methods: A retrospective chart review was performed on all patients who presented to the Royal Brisbane and Women's Hospital Emergency Department between 2003 - 2017 with post-traumatic orbital haemorrhage confirmed on computed tomography scan.

Results: 100 orbits from 98 patients were included in the study. The majority of patients were male (73%) and 16% were anticoagulated. Mechanism of injury included falls (39%), direct blunt trauma (30%) and road traffic collisions (29%). 80 of the hemorrhages were extraconal and 20 were intraconal. Extraconal hemorrhages were most commonly located in the superior orbit and reported hematoma thickness ranged from 2 to 17mm (mean 5.13mm). Approximately 50% of all patients also suffered from an intracranial hemorrhage and 85% had at least one orbital wall fracture. There were 8 cases (8%) of orbital compartment syndrome requiring lateral cantholysis with varying patient and hemorrhage characteristics. Decompression was performed after imaging in all but one patient.

Conclusions: Orbital compartment syndrome from post-traumatic orbital hemorrhage is uncommon. Diagnosis and decompression is often delayed, particularly in the setting of multitrauma with other injuries. Radiological features of orbital hemorrhages varied and were not accurate predictors of OCS. Patients that did not develop OCS generally had favourable visual outcomes in the absence of other ophthalmic injuries.

P120

Spontaneous medial rectus haemorrhage mimicking orbital cellulitis

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Objective: A case report on a patient with spontaneous hemorrhage of the medial rectus muscle.

Methods: A 53-years-old Chinese lady presented with sudden non-traumatic left eye redness, swelling and pain of 3 days duration, associated with diplopia on right gaze. She has no past medical history. There was proptosis of her left eye, associated with motility restriction in all directions of gaze. Investigations including blood tests, computed tomography (CT) scan, magnetic resonance (MR) scan and biopsy with histology were performed.

Results: White blood cell counts ($9.8 \times 10^9/L$) and neutrophils ($7.67 \times 10^9/L$) were marginally raised, while C-reactive protein (56.9 mg/L) and erythrocyte sedimentation rate (71 mm/hr) were high. The rest of the blood tests, including blood culture and thyroid function test were unremarkable. CT scan showed a large conal-intraconal mass at the left orbit medially, displacing the optic nerve superolaterally, also causing mild mass effect on the globe with mild proptosis. MR scan showed an almost fusiform mass in the retrobulbar intraconal compartment of the left orbit medially, with intensity suggesting mixed stage products. Intraoperative biopsy revealed an edematous left medial rectus with intramuscular hematoma, which drained 5ml of stable blood with no frank pus. Histology showed skeletal muscle with organizing hemorrhage.

Conclusion: The patient was subsequently treated conservatively and observed. The ocular signs went away, and the patient regained normal ocular motility, with resolution of diplopia.

P121

Endoscopic approach for orbital tumors

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Objective: Anatomical structures of the orbit can give rise to neoplasia. Direct extension from surrounding anatomical structures (intracranial and paranasal sinuses), lymphoproliferative disorders and haematogenous metastasis results in secondary orbital invasion. Applications for endoscopic approach to the orbit for diagnostics and treatment have been expanding in addition to traditionally used medial and lateral orbitotomies. Transnasal endoscopic approach has been used for orbital processes, including



management of orbital apical lesions, inferior and medial lesions. Decompression of the medial orbital wall is also possible through endoscopic approach. Our purpose was to evaluate the endoscopic approach for orbital tumors.

Methods: A retrospective study was performed of all patients with frontal sinus osteomas treated surgically using endoscopic approach and transcaruncular approach at the Orbital Centre Amsterdam.

Results: Most of the tumours were osteoma's and located in the ethmoid and orbital regions. A combined endoscopic and transcaruncular orbital approach was used to remove most of the tumours. Only 3 (16.7%) of the treated patients had a recurrence, and 1 patient needed a second surgical procedure. 33,3% of the patients had postoperative complications like eyelid distortion and lacrimal duct obstruction. Strabismus was seen if present preoperatively.

Conclusions: endoscopic approach alone or combined with transcaruncular approach is a good treatment method for orbital tumors.

P122

Pituitary apoplexy - does surgical intervention affect visual outcomes?

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Objective: To assess the visual outcomes including acuity, fields and ophthalmoplegia of patients treated surgically for pituitary apoplexy at a tertiary referral centre in London.

Methods: Prospective data was collected via a specific proforma for 8 consecutive patients presenting or referred to a specialist pituitary centre with pituitary apoplexy from August 2017 to March 2019. Follow up visits at 3, 6 and 12 months post admission with 30-2 Humphrey's field testing and orthoptic assessment were conducted to assess visual outcomes.

Results: 75% of patients with pituitary apoplexy had visual disturbances at presentation. Five of the 8 patients underwent endonasal surgery for decompression. In those whose visual acuity and baseline fields were initially assessed, all achieved improvement post-operatively. Three of the 5 surgically managed patients initially presented with ophthalmoplegia, which fully resolved by the 6 month follow up appointment.

Conclusion: Pituitary apoplexy is a very rare disease often causing significant visual impairment. Prompt surgical intervention seems likely to have a role to play in optimising visual outcomes.

P123

Unknown metastatic breast cancer diagnosed by orbital biopsy

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Background: To report a rare case of unknown metastatic breast cancer diagnosed from orbital biopsy.

Methods: A 40-year-old female presented with a 2-month history of painless, progressive, intermittent, horizontal binocular diplopia. She felt healthy otherwise, had no other symptoms and no past medical or surgical history. Examination confirmed partially restricted right eye abduction, normal left ocular motility, normal optic nerve function, normal and symmetrical exophthalmometry and normal intraocular findings.

Results: MRI orbits with contrast demonstrated a right ill-defined, enhancing, soft tissue mass lying in superomedial extraconal fat and between superior oblique, trochlear, medial rectus, inferior rectus, and encasing the distal optic nerve up to the posterior globe. A similarly enhancing mass was also present in the left posterior orbit. Uncomplicated transcaruncular right orbital biopsy samples of medial orbital fat and medial rectus muscle showed minimal diffuse cellular infiltrate with mild cytological atypia.

Immunohistochemical analysis was positive for AE1/AE3, CK7, GATA-3, ER and focal GCDPF-15 and



negative for CD3, CD20, CD68, CK20 and TTF-1. The overall histological appearance was that of metastatic lobular breast cancer. Staging CT demonstrated enlarged axillary lymph nodes, diffuse bone (arms, spine, ribs, sternum, pelvis, legs), liver and ovarian metastases. Following urgent referral to oncology, orbital radiotherapy quickly achieved a measurable improvement to right abduction. Goserelin and letrozole systemic chemotherapy were also commenced to address the systemic disease. **Conclusions:** Orbital metastases are rare with breast cancer accounting for approximately half of all orbital metastases. However, it is very rare for an orbital metastasis to be the first presentation of breast cancer. Our case therefore serves as a reminder to consider life-threatening differential diagnoses for atypical diplopia presentations. It is also worth noting that orbital radiotherapy can offer prompt improvement for such challenging cases and the potential to save sight.

P124

Clinicopathological characteristics of Solitary Fibrous Tumor of the orbit. A case series analysis

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Objective: To present a case series of patients with Solitary Fibrous Tumor (SFT) of the orbit which represents a very rare entity.

Methods: Retrospective case series of 7 patients with orbital SFT treated between 2010 and 2018 at a tertiary referral center in UK were included in this study. Clinical, radiological, histopathological features and management outcome of patients with orbital SFT were recorded. Recurrences and malignant transformation were evaluated. A correlation between radiological, clinical and histological features was performed as to identify outcome predictors of malignant transformation or local recurrence.

Results: 7 patients (4 males and 3 females) with a mean age of 51 years (range: 21-87) were included to our study. Mean time of presentation of symptoms was 5 months (range: 2-12). Painless proptosis was the initial presentation in 4 cases while in 3 cases the initial main symptom was lid swelling with the presence of a firm mass in the orbital rim. 2 patients had restricted motility on presentation. Mean follow up period was 5 years (range: 3-9). Histopathology and immunohistochemistry studies were performed. All tumors were positive for CD34. Complete excisional biopsy was performed in 3 cases while a debulking biopsy was performed in the remainder 4 cases. 2 patients required more than one biopsy due to local recurrences. One patient received radiotherapy while it was not deemed appropriate for the other patient as this was his only sighted eye. One case had malignant transformation and exenteration was performed. No surgical complication was noted in our study group.

Conclusion: Solitary fibrous tumor is a rare mesenchymal tumor which rarely involves the orbit. Malignant transformation is uncommon however, whenever diagnosed can have devastating consequences. Long term follow-up with routine MRI of the orbits is mandatory.

P125

Bilateral silent sinus (imploding antrum) syndrome

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Background: Silent sinus syndrome (SSS), also termed imploding antrum syndrome, describes spontaneous enophthalmos arising from contracture of the maxillary sinus in the complete absence of any symptomatic sinonasal disease. The unusual nasal structure that probably causes the condition renders its occurrence almost exclusively unilateral.

Methods: Retrospective case report

Results: The authors describe a 40-year-old male patient with left silent sinus syndrome, who presented 4 years later with right silent sinus syndrome; to the authors's knowledge, this is only the second case of bilateral sequential silent sinus syndrome. Each side was successfully managed with endoscopic antrostomy and secondary orbital floor repair.



Conclusion: Bilateral SSS might be under-reported, but it would still appear to be extremely rare -- this lending support to a putative aetiological mechanism of intranasal crowding (due to asymmetry) precipitating the antral implosion

P126

Granulomatous dacryoadenitis associated with pleomorphic adenoma

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Background: Pleomorphic adenoma (LPGA) is the commonest benign epithelial neoplasm of lacrimal gland, having a variable admixture of epithelial and mesenchymal components; atypical features -- such as cystic degeneration, calcification or ossification -- may occasionally be seen. We describe two cases of a LGPA with coincident sarcoid-like granulomatous disease alongside the tumor, but with no evidence of systemic sarcoidosis.

Methods: Retrospective case reports.

Results: Both cases demonstrated non-necrotic pleomorphic adenoma with a partial rim of mildly inflamed lacrimal gland that contained foci of granulomatous inflammation, thus raising the possibility of a systemic granulomatous disease; a localised chronic infection was unlikely as stains for microorganisms were negative. Systemic investigations found no evidence of sarcoidosis or other granulomatous disease.

Conclusion: This granulomatous inflammation is an unusual phenomenon seen within the rim of glandular tissue surrounding the tumor, and such patients should be investigated for systemic disease and possibly watched for its development in the long-term.

P127

Orbital subperiosteal abscess masqueraders: case series and review of the literature

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Background: Here we describe six cases presenting as bacterial subperiosteal abscess of the orbit found intraoperatively and on pathology to have different etiologies. The distinguishing preoperative radiographic features were evaluated.

Methods: Retrospective case series and review of the literature

Results: Six cases were identified over a two-year period. All cases had symptoms suggestive of a rapid onset infectious process with orbital signs on examination. Pre-operative CT scan of the orbits was performed in all cases (Figure 1). Radiographic findings included adjacent sinusitis, often with a bony dehiscence, as well as preseptal swelling and a rim-enhancing convex mass along the orbital wall. Based on the presentation and imaging, all cases were started on IV antibiotics for presumed infectious process. Biopsy and drainage were necessary in all cases due to pain, optic neuropathy, or worsening despite antibiotics. The final diagnosis was hematoma in three cases, mucocoele in one, metastatic endometrial cancer in one, and naso-mucosal melanoma in one. The radiodensity in Hounsfield units of the lesions, adjacent sinus disease, and other processes such as metastases helped distinguish the lesions. Metastatic carcinoma had the highest radiodensity (135 HU), the mucocoele had the lowest radiodensity (30 HU), mucosal melanoma was 68 HU, and the hematomas ranged from 49 to 86 HU.

Conclusion: Most cases of a convex-shaped mass adjacent the paranasal sinuses with rapidly developing orbital signs are orbital abscesses secondary to sinusitis. However, a broad differential diagnosis beyond abscess should be considered. Radiographic features, particularly radiodensity, can help distinguish abscess from other lesions.

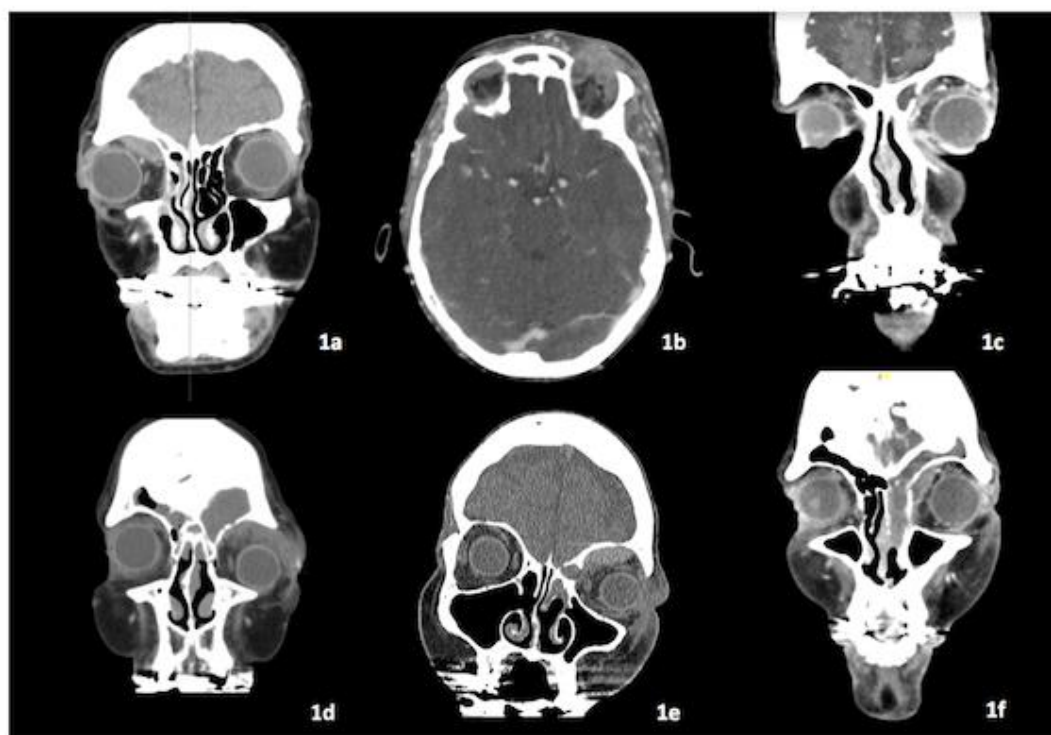


Figure 1. Representative images demonstrating the radiographic features of each case of subperiosteal masquerade on CT. 1a: Case 1—Hematoma. 1b: Case 2—Metastatic endometrial cancer. 1c: Case 3—Hematoma. 1d: Case 4—Mucocoele. 1e: Case 5—Hematoma. 1f: Case 6—Mucosal Melanoma.

[Figure 1]

P128

The results of orbital decompression in patients with DON-related extremely low vision

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Background: Disthyroid optic neuropathy (DON) is a rare but very severe complication of thyroid eye disease (TED) that may lead to dramatic visual loss. Bony orbital decompression is the 2nd line treatment after methylprednisone pulse-therapy. The recovery in cases of extremely low vision is often not satisfactory though sometimes it may be full.

The aim of the study was to estimate the level of visual recovery in patients with extremely low vision due to DON.

Methods: 16 patients (21 orbits) with DON and visual acuity (VA) 0.04 and lower were included into the study. 5 patients were bilateral. Mean age was 52±6.8, there were 10 females and 6 males. All patients had methylprednisone pulse-therapy before surgery which failed to be effective. In 6 cases VA was CF, 1 case HM, 2 cases plc and 12 cases of VA from 0.01 till 0.04. The duration of visual impairment was from 2.5 till 25 weeks, except 1 case with the duration of about 10 months. RAPD was present in 5 eyes because of the bilaterality of DON.

Results: In 12 orbits 2.5 wall bony decompression was performed, in 7 orbits lateral wall was the only to be removed and in 1 patients (2 orbits) only medial wall was removed. In all patients systemic steroids were used in postoperative course. All patients showed significant improvement of VA after surgery. High VA (>0.5) was achieved in 9 cases, medium VA (0.1 - 0.5) was revealed in 8 cases and in 4 eyes VA remained



low (0.02 - 0.1). In cases of high postOP VA color vision also recovered. In 7 cases lateral wall decompression was enough for recovery.

Conclusion: Bony orbital decompression showed high efficacy in cases of dramatic visual loss due to DON. In some cases it may lead to full recovery.

P129

Reconstruction of total or extended orbital exenteration defect with cheek advancement flap

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Objective: To review the outcomes of orbital exenteration defect reconstruction using cheek advancement flap.

Materials and methods: The medical records of 12 patients who underwent total or extended orbital exenteration with repair by cheek advancement flap were reviewed. Several clinical and surgical data were recorded. At surgery, a cheek flap was created through a nasojugal incision and then advanced superiorly to cover the orbital defect. The frontalis skin-muscle was dissected and moved down if needed.

Results: All patients (6 females, 6 males; age range: 27 to 89 years, mean: 67 years) underwent orbital exenteration because of a malignant tumor. The most common tumors were basal (n=5) or squamous cell carcinoma (n=3) originating from the eyelid. Two patients had a history of orbital radiotherapy. Total exenteration was performed in 3 patients and extended orbital exenteration in 9 patients. In 9 patients (75%), the orbital defect was closed primarily by the cheek advancement flap. In order to cover the defect, 3 patients required a forehead flap (n=2) or a skin graft (n=1) as well as a cheek flap. Five patients had radiotherapy and 3 patients had chemotherapy following the surgery. Flap necrosis, infection, or dehiscence was not observed in any patient postoperatively. Tumor recurrence or metastasis occurred in 3 patients during follow-up (mean, 16 months; range: 2-48 months).

Discussion: The cheek advancement flap can be a practical and reliable option to repair total or extended orbital exenteration defects. This flap, if necessary, can be combined with sliding down the forehead skin.

P130

Diagnostic orbitotomy for orbital lymphoma: a 10 year series

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Objectives: Histopathological analysis is necessary to confirm diagnosis and guide treatment in orbital lymphoma (OL). We examined the outcomes of orbitotomies in lymphoma patients over a ten-year period.

Method: Cases with orbital biopsies diagnostic of lymphoma from 2007-2017 were analysed and compared with existing literature.

Results: 39 patients had confirmed OL. Records were available for 33 patients, who underwent 37 biopsies. Median age was 69, male:female ratio 1:1.32. Presenting symptoms included mass (59.0%), epiphora/discharge (40.5%), pain 35.4%, ptosis (32.4%) and eyelid swelling (29.7%). Duration of symptoms was typically 2-6 months (range 4 days to 3 years). Signs included mass, proptosis (51.3%), ptosis, lid swelling and hyper/hypoglobus (24.3%)

Lymphomas were anterior in 62.1%. 80.0% were extraconal, 5.4% intraconal and 13.6% both. One case was bilateral. OL was the clinically suspected diagnosis in 73% after imaging, with orbital inflammatory disease, TED, sarcoid and meningioma suspected in others.

Histopathological type was EMZL in 54.0%, DLBCL 18.9%, follicular 13.5%, other 13.6%. 10 patients had more than one biopsy, either for inconclusive first biopsy or recurrence. 73% were biopsied under general anaesthetic, reasons including surgeon or patient preference and posterior mass. Post-operative complications occurred in 21.6% (new diplopia 5.4%, new ptosis 5.4%, supraorbital numbness 8%). 81%



had BCVA 6/12 or better after orbitotomy; only one patient's vision worsened post-op (6/9 to 6/30). At least 24 patients were treated with radiotherapy, but treatment records were not available for some since treatment was given in referring centres after biopsy in our referral centre. Post-treatment BCVA was 6/12 or better in 73%, but 44% lost at least one Snellen line of acuity.

Discussion: Lymphoma is the commonest orbital malignancy in adults. Low-grade lymphomas were less common and higher grade more common in our cohort than in previous literature, though our series could be skewed by regional referral patterns.

P132

A novel radiological classification of thyroid eye disease

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Background: Standard radiological reporting of thyroid orbital imaging does not provide any correlation between thyroid eye related disease activity and radiological architecture. We propose the use of a radiological scoring system to determine the likelihood of active thyroid disease based on radiological changes.

Methods: Retrospective analysis of Computerised Tomography imaging of the orbits and correlation with thyroid eye disease (TED).

Results: Analysis of CT orbital imaging of 20 patients (Male: Female, 7: 1, mean age 52.3 years) within 6 weeks of clinical diagnosis of TED. Imaging of 5 patients without a diagnosis thyroid eye disease was analysed as control.

Radiological readers were blinded. Radiological morphological data was collected and scored: Presence of proptosis (1), Increased extraconal and muscle fat (0-2), spindle muscular recti configuration (0-4), Quadrant of apical crowding (0-4), Tenting of optic nerve (0-1). Seven patients had active thyroid eye disease (Clinical activity score (CAS) >3) with radiological scoring (7-11; mean 9) and 13 patients had CAS score < 3 and a radiological scoring (1-4; mean 3). There was a positive correlation between CAS score and radiological scoring ($r=0.856$).

Conclusions: The radiological classification system provides an accurate radiological observational tool in determining the likelihood of active thyroid eye disease. Greater than 50% scoring was associated with active thyroid eye disease clinically. The information can guide radiologists' reporting as well the treating physician and surgeon towards appropriate and timely management. Inter-assessor variability is a limiting factor. A larger and prospective study will increase our comprehension of radiological behaviour of thyroid eye disease.

P133

Paediatric primary orbital apocrine hidrocystoma with sebaceous elements

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Background: To describe a rare pathogenesis of primary orbital apocrine hidrocystoma with sebaceous elements, with emphasis on histological classification.

Methods: Case review with correlation of clinical, radiological and histological features and review of literature.

Results: A 15 month old infant with a history of progressive right lower lid swelling since birth, associated with progressive right hyperglobus was referred to the paediatric ophthalmologist and subsequently, to the oculoplastic service, with a provisional diagnosis of cystic lesion and threat to vision.

MRI examination of the orbits showed a right orbital intraconal mass lesion with small fatty component and



capsular enhancement. Uneventful, complete excision and histological analysis revealed apocrine hidrocystoma with sebaceous elements. Patient remains well with no effect to vision six months post-operatively.

Conclusions: Apocrine hidrocystomas should be considered in the differential diagnosis for cystic lesions of the orbit. Presence of sebaceous gland elements result in a heterogeneous radiological appearance that can mimic a dermoid cyst.

We report the first case of a paediatric, orbital hidrocystoma with sebaceous elements and propose a practical diagnostic format for apocrine hidrocystomas of the orbit that help to distinguish benign adenomas from carcinomas.

P134

A case series of Immunoglobulin G4-related ophthalmic inflammation: an emerging disease

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Background:

1) To present the spectrum of clinico-radiological manifestations in thirty cases of IgG4-related Ophthalmic disease (IgG4-ROD) along with their epidemiological and histopathological data and to evaluate the clinical outcomes of the disease with targeted therapies like Rituximab.

2) To monitor the response of glucocorticoid therapy in relation to serum IgG4 levels.

Methods: A prospective interventional study of thirty cases presenting with wide spectrum of clinico-radiological manifestations was carried at a tertiary hospital in New Delhi, India, between 2014-2019. The patients presented with upper eyelid swelling resulting from dacryoadenitis (16/30 cases), proptosis with extraocular muscles or intraconal fat involvement (10/30) or infraorbital nerve enlargement (2/30) and proptosis with lid swelling due to both lacrimal gland and extraocular muscle involvement (4/30). Epidemiological profile and lab results were noted. Incision biopsy was carried out and the diagnosis was made based on the new diagnostic criteria for IgG4-ROD by Goto et al in 2014. All the patients were started on oral steroids along with Immunosuppressants. Rituximab was used in cases non-responsive to the aforementioned drugs.

Results: The average age at presentation was 40 years. The patients were diagnosed as Definite IgG4 disease in 16/30 cases, Possible IgG4 disease in 8/30 cases and Probable IgG4 disease in 6/30 cases. Twenty two of thirty cases had good clinical outcome with steroids (30/30 cases) and Immunosuppressants (Azathioprine 27/30 or Methotrexate 3/30). Eight of thirty cases resistant to steroids were stabilised with Rituximab therapy.

Conclusion: There was a significant reduction in serum IgG4 levels along with clinical improvement in response to glucocorticoid therapy. The diagnosis of IgG4-Related Disease is critical as it responds well to targeted therapies like Immunosuppressive agents and Rituximab resulting in better clinical outcomes.

P135

Idiopathic inflammatory orbitopathy associated with Horner's syndrome after thyroidectomy: case report

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Patient CSA, female, 41 years, 3 years ago, presented on the right 2 of 4 Bethesda VI cervical nodes. She underwent total thyroidectomy with lymph node dissection II-IV. The diagnosis of papillary thyroid carcinoma was confirmed through pathology, with staging T3N1bM0. After 1 month of surgical treatment, he was seen in the emergency room with bilateral spontaneous ocular pain, severe pain, ocular movement, visual turbidity, hyperemia and eyelid edema. At the exam, visual acuity of 1 in both eyes (OU), diplopia,

anisocoric pupils, left eye (OS) greater than right eye (OD), 30 diopter OS esotropia with abduction restriction, and mild ptosis were observed. The fundoscopy remained unchanged. After performing magnetic resonance imaging (MRI) of the orbit, which revealed an intense gadolinium uptake in the left retrobulbar region with extraocular muscle edema, especially in the lateral rectus, the diagnosis of inflammatory idiopathic disease caused by left lateral rectal myositis. Treatment with prednisone 1mg/kg/day at weekly weaning was started with improvement of the condition, especially pain and restriction of abduction, persisting only with anisocoric (OS greater than OD). After 1 year of the initial symptoms, the patient reported a new episode of severe ocular pain in the DO and restriction to levoversion, associated with hyperemic and painful nodulation in temporal bulbar conjunctiva. The corticoid 1mg/kg/day was taken at weekly weaning after considering the nodular scleritis hypothesis causing IBD. Finally, a regression of the patient's pain symptoms was again achieved.



[Clinical and image]

P136

Early macular and peripapillary vasculature dropout in active thyroid eye disease

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Introduction: Thyroid eye disease (TED) is an autoimmune manifestation of dysthyroidism. The choroid is the vascular structure of the eye supplying the outer retina, so Changes in the choroidal Flow may be related to the pathogenesis of retina, choroid, and optic nerve. Its not stablished weather the macular and peripapillary choroidal flow changes or not in the course of TED. Optical coherence tomography angiography has increasingly been used to evaluate the retinal vasculature in both normal eyes and retinal vascular pathologies. Besides, peripapillary microvascular changes have been studied in glaucomatous optic neuropathies using OCTA.

This is the first study To evaluate, macular and peripapillary microvasculature in TED patients as well as macular and peripapillary choroidal flow.

Material and methods: 54 patients (94 eyes) included in this study; 13 patients (21eyes) with active TED and 42 patients (77eyes) with not active TED; comparing with 34 normal matched subjects (64 eyes). All of them undergone OCTA to measure peripapillary and macular vessel density and choroidal flow.



Results: The peripapillary choroidal flow was significantly reduced ($p < 0.05$) in active patients compared to not active ones and normal eyes. Vessel density as well as macular choroidal flow had no significant change.

Conclusion: Patients with active thyroid eye disease may have abnormal choroidal flow even in the absence of optic neuropathy detecting with OCTA.

P138

Subperiosteal and orbital collections secondary to acute sinusitis: can we safely surgically manage this as ophthalmologists?

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Purpose: Periorbital cellulitis requires multidisciplinary treatment; it is an infection of an organ from one specialty (Ophthalmology) typically surgically managed by a second (Otolaryngology) under the care of a third (Paediatrics). A previous study by the author showed 45% of acute admitting Ophthalmology units in the UK have guidelines for periorbital cellulitis and there was little surgical guidance. Some otolaryngologists believe that the sinusitis component may be treated medically.

Methods: Patients admitted to Manchester Royal Eye Hospital with subperiosteal/orbital collections and acute rhinosinusitis that underwent surgical drainage were identified through clinical coding. Primary outcome measures were length of hospital stay and return to theatre.

Results: Thirty-eight cases were identified ages 9 months-50 years (median 11). Sixteen (42%) patients underwent external orbital drainage by an ophthalmologist alone whilst 22 (58%) patients had combined orbital and sinus drainage by an ophthalmologist and otolaryngologist. There were no significant differences in severity of disease between the two groups. Median hospital stay was 5 days in the orbital drainage group and 6 days in the combined orbital and sinus drainage group ($p > 0.05$). Three patients in the orbital drainage group required revision surgery vs 9 in the combined surgery group ($p < 0.05$).

Conclusion: Ophthalmologists may safely surgically manage orbital abscesses as a complication of rhinosinusitis whilst rhinosinusitis is treated medically. We continue to analyse microbiology data and collect data from a two other tertiary hospital.

P140

Transosseous canthoplasty in lateral canthal dystopia by type 1 neurofibromatosis

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Objective: Type 1 Neurofibromatosis is a neurocutaneous disorder of autosomal dominant inheritance, with an estimated incidence of 1: 3000 live births. Between 1-22% of the patients affected have orbitopalpebral pathology. We propose a new surgical technique for the treatment of lateral canthal disinsertion by plexiform neurofibroma, which affects up to 60% of these patients and which can be difficult to resolve with standard surgical techniques.

Methods: A transosseous cantoplasty was performed in 3 eyes of 3 patients affected by orbitofacial NF1, with deformities of the lateral canthus. All of them had undergone previous palpebral reconstructive procedures. The surgical technique consists of making the skin incision in the lateral canthus at the level of the upper eyelid fold, dissecting to the lateral orbital margin. The malar periosteum is separated from the orbit to locate the lateral canthal tendon, disinserting it, and pulling it cranially to release it from the inferior adhesions it may present. The lateral wall of the orbit is drilled 5mm from the orbital rim and 5mm from the optimal position of the lateral canthus in the horizontal plane. A non-resorbable suture is passed through the tendon and the osteotomy and, after observing that the canthal inclination is correct, a suture is made by planes, fixing the tendon to the temporal muscle.



Results: The final aesthetic result was symmetrical respecting the other eye and no recurrence of lateral canthal tendon detachment was observed during the 12-24 months of follow-up of the 3 patients.

Conclusions: Transosseous cantoplasty is a reconstructive surgical technique not previously described that has good aesthetic and functional results in the treatment of lateral canthal dystopia in type 1 neurofibromatosis.

P141

Case report: Surgical technique for severe microphthalmic orbit reconstruction

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Objective: We aim to describe surgical technique facing bilateral severe microphthalmia in pediatric patients. An underdeveloped eye lacks the proper growth stimulus for normal orbit development leading to facial dissymmetry subsidiary to surgical treatment.

Methods: We report the case of a 4 years-old child diagnosed of bilateral severe microphthalmia. No other extraocular findings were found. At 6 months of age the patient showed: palpebral fissure 12/11mm respectively, upper and lower conjunctival fornices 3/4mm in both eyes, anteroposterior orbit length 8/9mm respectively. Expandable catheters were implanted in both orbits with progressive increase of filling water volume. Enough socket volume was sought for a correct thin prosthesis fitting.

Orbital development was followed up until the age of 4 years old showing decreased upper face size. In order to get the proper volume for a bioceramic implant (18mm) further space was required. Lateral canthotomy and cantholysis plus soft tissue dissection allow a wide access to zygomatico-frontal rim. An automatic saw is used in order to perform squared lateral orbitotomy getting a freely movable lateral wall. Previous tomographic imaging allows a greater safety of orbitotomy margins. Lateral wall is displaced as implant is located in the empty cavity with perfect fitting.

Results: Increased orbit volume and a wider orbital margin can be obtained by this technique. Otherwise implant would have been smaller and we would have obtained suboptimal functional and aesthetic results. Secondly socket reconstruction with mucous graft or dermofat graft will give the perfect host for a normal-size adult eye prosthesis.

Conclusion: A combination of progressive expanding catheter prior to lateral orbitotomy and implant is a proper approach for orbital reconstruction in severe microphthalmic pediatric patients.

P142

Visual preservation via optic nerve sheath fenestration in congenital orbital fibrosis

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Objective: To present four patients with congenital orbital fibrosis, review the factors affecting visual function, and describe visual improvement after optic nerve sheath fenestration for optic nerve edema in one of the patients.

Methods: Retrospective, interventional, non-comparative case series.

Results: Four male patients were identified with COF who presented at a mean age of 11 months (range 1-21 months). Two of four patients presented with decreased ocular motility and gaze deviation of the affected eye. Globe displacement was variable: two patients presented with exophthalmos and one presented with enophthalmos. Two patients demonstrated ptosis and one presented with eyelid retraction. On MRI, three of four patients showed fibrosis of the superior, medial and inferior rectus and superior oblique muscles. Two of four patients showed fibrosis of the lateral rectus and inferior oblique muscles. Examination revealed two patients with optic nerve atrophy and one with optic nerve edema.



Three patients underwent orbitotomy and showed pathology consistent with orbital fibrosis. Three patients demonstrated amblyopia, one of which showed excellent response to treatment. One patient underwent frontalis suspension for ptosis repair. To prevent optic nerve compromise and maintain visual function, the patient with papilledema underwent optic nerve sheath fenestration which resulted in improvement in vision and optic nerve edema.

Conclusions: Visual outcomes in patients with congenital orbital fibrosis can be affected by amblyopia secondary to ocular misalignment, ptosis, and/or anisometropia, and optic atrophy. It is of utmost importance that patients with COF undergo a complete ophthalmic exam as many of these factors are treatable. Amblyopia therapy should be instituted quickly, and strabismus and ptosis can be successfully treated to prevent visual decline. Although optic atrophy secondary to optic nerve compression may not be treatable, those patients with optic nerve edema may benefit from optic nerve sheath fenestration.

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Orbital abscess secondary to orbital implant 8 years after surgery: a case report

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Objective: Orbital implants are increasingly used for minimally invasive aesthetic procedures of the face. The usage of dermal fillers for reconstruction of the hollowness of the upper lid is common in Asian patients. Many mild and serious complications have been reported lately. The aim of this report is to discuss one of the severest complications of orbital implant surgery.

Methods: A case report.

Results: A 65-years old Korean female presented with a history of chronic conjunctivitis and progressive swelling of the left eyelid. She reported a history of orbital implant both orbits 8 years before. Examination revealed symblepharon and scarring of the upper eyelid with swelling of the soft tissue. The MRI scan showed an abscess of 7 x 9 mm next to the orbital implant located in the nasal superior orbit. We decided for a surgical procedure with removal of the orbital implant. Intraoperatively we revealed an about 15 cm long implant and removed it without any further complications. After surgical intervention full recovery with formation of scar tissue was observed.

Conclusion: Orbital implants as aesthetic procedure may lead to various complications also many years after surgery. Chronic orbital inflammation presenting as chronic conjunctivitis requires detailed research about the previous aesthetics procedures. The removal of the implant leads to rapid recovery but changes the aesthetics' effect of previous surgery.

P144

A case of Miller Fisher Syndrome and bilateral asymmetric globe retraction

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Miller Fisher syndrome (MFS) is a rare, acquired nerve disease that is considered to be a variant of Guillain-Barré syndrome. It is characterized by abnormal muscle coordination, paralysis of the eye muscles, and absence of the tendon reflexes. Like Guillain-Barré syndrome, symptoms may be preceded by a viral illness. Additional symptoms include generalized muscle weakness and respiratory failure. The majority of individuals with Miller Fisher syndrome have a unique antibody that characterizes the disorder.

We report a patient with MFS who presented with clinical signs suggestive of bilateral asymmetric globe retraction and negative ganglioside antibodies (anti-GQ1b).



P145

Sudden onset orbital hemangioma - a clinical case

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Objective: We present a 38-year-old woman with complaints of a sudden onset of a painless swelling of a lower right eyelid two months ago, that was noticed early in the morning, after waking up. The patient reports a slight blunt trauma, due to rubbing and sleeping to the right side in the previous evening. After examination, a non-painful formation, with transverse size about 1.5 cm and a rigid-elastic consistency, fixed in the middle third of a lower orbital edge was observed. CT scan showed a well-limited, encapsulated formation, located behind the orbital septum.

Methods: The patient underwent surgical treatment. Through an infraciliary incision, a well-encapsulated tumor formation located behind the lower orbital edge was found. We did a cautious separation, expression and excision of the tumor, intact without disturbing its integrity. A lower lid reconstruction with partial SMAS lifting was performed to recover the normal structure of the lower eyelid.

Result: The histological examination revealed a cavernous hemangioma with areas of organized hemorrhage. Despite its deep location in the orbit and anatomical proximity to important structures, postoperatively, we did not observe any changes in the motility and sensitivity of the eyeball and the lower eyelid, with an excellent aesthetic result.

Conclusion: Orbital hemangiomas are the most common vascular lesions of the orbit, more often in middle-aged women. Usually they are slow growing, asymptomatic formations. Sometimes they may rarely occur with sudden onset symptoms. In our case, we assumed that the light dull trauma during sleep caused bleeding in previously existing orbital hemangioma. This caused a rapid increase in size and a sudden swelling of the eyelid.

P146

Optic nerve glioma with intra-ocular extension in a pediatric patient with type 1 neurofibromatosis

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Introduction: Optic nerve glioma (ONG) is the most frequent neoplasm in patients with Type 1 Neurofibromatosis (NF-1), with an incidence of approximately 3 to 10% between 3 and 9 years of age. Under normal conditions, astrocytic tumors do not cross the internal hemato-retinal barrier. We present a case of a patient with intra-ocular extension of ONG, in context of NF-1.

Methods: A 5-year-old female patient referred to our center for exophthalmos in the context of NF-1. During the ophthalmological examination of the left eye (LE), a visual acuity (VA) of no light perception was observed, accompanied by a 3-4 mm proptosis. The MRI showed a thickening of the optic nerve due to a circumferential mass that extended from the optic disc to the extraorbital segment of the nerve. It showed an intense heterogeneous enhancement, as well as a nodule of intra-ocular enhancement in the posterior pole. Histopathology confirmed the diagnosis of pilocytic astrocytoma of the optic nerve with intra-ocular extension.

Results: In the literature there are sporadic reports of intra-ocular dissemination of optic nerve glioma. The differential diagnosis in these cases should include retinoblastoma, the difference is the absence of calcification; pilocytic juvenile astrocytoma and optic nerve meningioma with intra-ocular infiltration. In patients with NF-1, malignant choroidal melanoma should also be included, since it has a slightly increased incidence with respect to the general population. The definitive diagnosis is achieved by biopsy.

Conclusion: ONG may extend to the vitreous cavity with no other simultaneous intracranial involvement. Early and regular screening of children with NF1 is necessarily for timely detection and adequate treatment of OPG in order to preserve the vision.



P149

Dysthyroid optic neuropathy: a single center experience

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Objective: To describe the clinical characteristics of a series of consecutive cases of dysthyroid optic neuropathy (DON) seen at the Department of Ophthalmology at Mainz University Medical Center in the years 2006-2017.

Methods: Forty-eight Graves orbitopathy (GO) patients suffering from DON were evaluated regarding visual acuity (VA), visual field (VF), clinical activity score (CAS), and other clinical data and compared to a group of 127 GO patients without optic nerve involvement.

Results: Twenty-three percent of DON patients were male, in comparison to 14% in the non-DON group. They also tended to be older than the non-DON patients (47 vs. 60 years).

Median VA was significantly worse in the DON patients, ranging at 0,4 log Mar in the DON in comparison to 0,0 log MAR in the non-DON patients. The same held true for median mean defect in VF, which was 0.4 dB vs. - 9.9 dB in non-DON vs. DON. Hertel readings did not differ relevantly between both groups (20 vs. 22 mm). As two thirds of DON patients (35/48) experienced a bilateral involvement, a relative afferent pupillary deficit was only noted in one third. This is paralleled by optic disc appearance: it was normal in all non-DON patients, but pathological in 30% of patients suffering from optic neuropathy. Median CAS was 4 (range: 1-7) for the DON patients and 1 (range: 0-5) for the non-DON, respectively.

Conclusion: Though visual function in DON is reduced in comparison to non DON patients, neither VA nor VF enable a clear discrimination between groups. The same holds true for optic nerve morphology, which is normal in two thirds of the patients. Our findings confirm previous studies indicating that no single sign reliably identifies optic nerve dysfunction, and that a comprehensive ophthalmological investigation is required to identify this complication of GO.

P150

Orbital decompression surgery for Thyroid Associated Orbitopathy: a review of Leeds practice

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Introduction: Thyroid Associated Orbitopathy (TAO) is an autoimmune disorder characterised by lymphocytic infiltrate of the orbit. In extreme cases a compartment syndrome may compromise the optic nerve, and significant proptosis may compromise the cornea, necessitating urgent orbital decompression. Elective orbital decompression may be performed for proptosis.

Aim: To audit the outcomes of all Orbital Decompression surgery for TAO in a single unit between 2012 and 2018.

Methods: A Medisort® search was performed to identify Orbital Decompression surgeries in the specified period. Data was compiled on the following: Demographics (age/sex), indication for surgery, operation performed and approach (one wall/two wall), duration of follow-up, exophthalmometry readings pre- and post-surgery, intra- and post-operative complications, and the presence of residual or new diplopia. A basic statistical analysis was performed thereafter.

Results: 110 patients underwent orbital decompression, 107 having TAO as an indication. Complete data was available for 98 patients. Of these, 91 had lateral wall decompression, 2 had medial wall decompression and 7 had two-wall surgery. Of the latter 7 patients, 5 had a medial wall decompression under ENT.

The average age was 48 years and the M:F ratio was 2.7:7.1. Average duration of follow-up was 24 months. The mean reduction in proptosis following lateral wall decompression was 4.66mm (95%CI: 4.37 to 4.96). There were 8 cases with documented post-operative complications including corneal oedema, chemosis and wound infection - more severe complications included one case of orbital apex syndrome. 40 cases had recorded post-operative diplopia with 82.5% of these being pre-existing, leaving 7 cases of new onset post-operative diplopia. 16% of patients required further strabismus surgery.

Conclusion: Lateral wall decompression surgery for TAO is an effective procedure with low complication rates, achieving excellent proptosis reduction and carrying a low risk of ocular morbidity. Our degrees of proptosis reduction achieved are consistent with published rates.



P151

Oculoplastic, reconstructive and prosthetic treatment of post-traumatic lesions of the orbital region

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Aim: To present three cases of treatment of post-traumatic lesions of the orbital region treated with oculoplastic, reconstructive and prosthetic methods.

Patients and methods: The functional and esthetic results of complete oculoplastic, reconstructive and prosthetic treatment were analyzed in 3 representative patients. The anatomical structures of orbital regions were with prominent post-traumatic lesions due to which prosthetic treatment was very difficult or impossible.

Results: Analyzed patients were surgically and prosthetically treated on several occasions. Various oculoplastic, reconstructive and prosthetic procedures were conducted depending on the required correction of the existing lesions of orbital regions. The required oculoplastic procedures included: substitution of the missing volume with various types of orbital implants and fillers, as well as correction of deformities of orbital bone structures, correction of eyelid deformity and position, mucosal graft transplantation, correction of conjunctival fornices. Satisfactory results have been achieved from both functional and aesthetic aspect.

Conclusion: In cases where prosthetic rehabilitation was impossible or very difficult, the administration of necessary oculoplastic and reconstructive procedures accompanied by complementary prosthetic treatment achieved satisfactory functional esthetic effects of prosthetic treatment and correction of deformity facilitating socialization of such patients.

P152

Non-surgical therapy of a local recurrence in a socket of a patient enucleated for uveal melanoma

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Background: For large or recurrent uveal melanomas as well as uveal melanomas involving the optic nerve, enucleation is a common treatment option. We report the case of a patient who presented with recurrent uveal melanoma behind her dermofat graft 3 months after enucleation.

Case report: A 78-year old woman presented with swollen, reddened eyelids and pain of the right orbit 3 months after enucleation and implantation of a dermofat graft. The examination showed massive conjunctival chemosis, palpable firm consistency of the dermofat graft and proptosis of the prosthesis. Previously, she had received stereotactic radiosurgery (Cyberknife®) for uveal melanoma. Thirteen months after radiosurgery a recurrent intraocular melanoma was diagnosed, which led to enucleation of the right eye and implantation of a dermofat graft harvested from the gluteal region. A PET-CT scan was performed, which revealed intraorbital contrast enhancement with increased metabolic activity (SUVmax 17). In addition, lesions with increased metabolic activity were seen in the liver, suspicious for metastases.

Hence, a biopsy from the dermofat graft was taken. Histopathological findings showed an epithelioid cell melanoma correlating to the histopathological findings within the enucleated globe.

The patient was referred to the department of dermato-oncology and underwent immunotherapy with checkpoint-inhibitors ipilimumab (Yervoy®, anti-CTLA-4 inhibitor) and nivolumab (Opdivo®, anti-PD-1 antibody). One month after the first treatment a significant reduction of tumor size and metabolic activity in the orbit as well as in the liver were observed in the follow-up PET-CT. Another follow-up CT scan was performed 4 months after starting checkpoint-inhibitor treatment, showing no evidence for local recurrence in the orbit. The size of previously described liver metastases was regressive, whereas one new liver metastasis was detected. The patient tolerated the therapy well, with exception of a current irritating cough. No further side effects were documented.

Discussion: This case demonstrates an immediate response to a combined immunotherapy therapy with ipilimumab and nivolumab after the first treatment in a fast grown intraorbital local recurrence and in distant metastasis of an uveal melanoma. This promising observation in a difficult situation seems worth further evaluation.



P154

Orbital lymph-hemangioma: a rare hybrid vascular lesion with characteristics of lymphangioma and cavernous hemangioma

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Introduction: Vascular malformations of the orbit, such as cavernous hemangiomas and lymphatic venous malformations, often present with classic clinical features. Cavernous hemangiomas present in adulthood with gradual enlargement and progressive proptosis, whereas lymphatic venous malformations present in childhood, can have spontaneous orbital hemorrhages and exacerbations associated with respiratory infections. We report a case of a rare hybrid lesion, a lymph-hemangioma, whose clinical presentation and histological findings share mixed features of a lymphangioma and cavernous hemangioma.

Methods: A 54-year-old woman with a history of a right orbital mass since childhood presented with gradual progressive proptosis. The patient reported episodes of globe subluxation, increased bulging and pressure sensation in the right orbit with Valsalva maneuver. The patient denied any pain, diplopia, or acute worsening with upper respiratory infections but had a distant history of an orbital hemorrhage associated with Valsalva that resolved. There was right proptosis with hyperglobus and right lower lid retraction. Exophthalmometry showed 3mm of proptosis, with full extraocular motility. Contrasted computed tomography imaging revealed a non-enhancing, well circumscribed extraconal mass in the right inferonasal orbit measuring 9.3 mm x 5.7 mm x 11.0 mm. An inferior orbitotomy revealed a reddish, firm lesion without a clearly defined capsule. The lesion had extensive attachments to the posterior orbital tissues and was excised in toto. Histopathological analysis showed a mixed fibrovascular tumor with dilated capillaries and lymphatic channels. Immunohistochemistry showed vascular endothelial (CD31-positive) and lymphatic (D2-40-positive) elements typical of a cavernous hemangioma and a lymphangioma, respectively. Post-operatively, the patient had resolution of proptosis, no diplopia or limitation of extraocular motility.

Conclusions: Lymph-hemangiomas are extremely rare tumors more commonly localizing to the mediastinum. This tumor's characteristics are neither classic for hemangiomas nor lymphangiomas. Histology demonstrates hybrid characteristics with structural elements and immunohistochemical markers common to hemangiomas and lymphangiomas comingling together in this lesion.

P155

Nontraumatic subperiosteal orbital hemorrhage during transesophageal echocardiography

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Objective: In this presentation, nontraumatic subperiosteal orbital hemorrhage during transesophageal echocardiography will be discussed.

Methods: We report the case of a 65-year-old female patient who developed left upper eyelid swelling and ecchymosis during transesophageal echocardiography with the diagnosis of aortic insufficiency.

Results: Visual acuity were 20/20 and intraocular pressures were 15 mm Hg in each eye. Pupillary, anterior segment, and fundus examination results were normal. Eye movements were restricted in all directions and hypoglobus was observed in the left side. Orbital computed tomography showed left superior orbital subperiosteal hemorrhage. The reduction of the size of hematoma was followed by the clinical findings. It was completely resolved 3 months later.

Conclusion: To the authors' knowledge, subperiosteal orbital hemorrhage have not been previously described following transesophageal echocardiography. Ophthalmologists and cardiologists should be aware of this potential complication associated with this procedure.



P156

Evaluation of corneal biomechanical properties in patients with Thyroid-associated orbitopathy

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Aim: To evaluate and compare the corneal biomechanical properties in patients with Thyroid-associated orbitopathy (TAO) and in eye-healthy patients using ocular response analyzer (ORA) in order to understand the variations of intraocular pressure (IOP) measurements using Goldmann applanation tonometry (GAT) and ORA.

Patients and methods: Twenty-nine consecutive patients with TAO and 30 eye healthy subjects were included in this prospective, age- and sex-matched study. All participants underwent a slit-lamp examination, IOP measurement with GAT and measurement of central corneal thickness (CCT) using Corvis ST. Also, corneal hysteresis (CH), corneal resistance factor (CRF), and cornea-compensated IOP values (IOP cc) were measured with ORA.

Results: The mean age of the patients was 51 ± 10 years in patients with TAO, and 56 ± 13 years in the control group. The mean CCT was $547.5 \pm 39.2 \mu\text{m}$ in patients with TAO and $560.8 \pm 49.8 \mu\text{m}$ in the control group ($P = 0.261$).

The mean IOP measurements with GAT and ORA, were $15.93 \pm 4.42 \text{ mmHg}$ and $18.40 \pm 7.93 \text{ mmHg}$ in patients with TAO and $14.52 \pm 3.02 \text{ mmHg}$ and $15.29 \pm 4.64 \text{ mmHg}$ in the control group ($P = 0.157$; $P = 0.017$ respectively).

In our case series, the mean value of IOP measurements with ORA was significantly higher in patients with TAO in comparison to the control group ($P = 0.029$). The patients with TAO had a statistically significant lower CH (mean: 8.54 ± 2.06) compared to the control group (mean 10.17 ± 1.89) ($p = .004$).

Conclusion: In our case series CH was significantly lower in patients with TAO compared to the control group. According to our data, GAT seems to underestimate the IOP in TAO patients. This might be explained by the difference of corneal biomechanical properties such as lower CH levels in TAO patients.

P157

Sebaceous Carcinoma in the Rotterdam Eye Hospital (SGC): a retrospective study to the outcome of 64 cases and literature review

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Objective: The objective of the study was to compare the data of patient tailored tumor treatment of the Rotterdam Eye Hospital to the international literature.

Methods: A retrospective case series of periocular SGC. Sixty-four patients were identified. Exclusion of 10 patients based on unclear pathologic diagnosis; 11 patients were excluded due to lack of sufficient data; one patient was excluded because the tumor was not in the periocular region.

Results: Of the included 42 patients the average age was 75,8 years [48,1-94 years]; follow-up was 92 months [18-297]. Local excision was performed in 86% of the patients; Primary exenteration was performed in 4,8% of the patients; the rest was treated with biopsy combined with topical agents. Local recurrence was seen in 29% of the patients. Secondary exenteration was needed in 11.9% of the patients. Five percent of the patients got distant metastasis, all of them died.

Reviewing existing literature showed local excision in 67-81%; local recurrence in 18-28%; exenteration (total) in 15-23%; metastasis in 8-23% and death from tumor in 2-19%.



Conclusions: SGC is a tumor with risk of exenteration, metastasis and sometimes death. Comparing our numbers to existing literature showed no higher exenteration and metastasis rate, despite a higher number of patients treated with local excision (86%) and a relative high number of local recurrences (29%).

P158

Intracranial hemorrhage following orbital decompression for thyroid orbitopathy

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Objective: In this presentation, intracranial hemorrhage following orbital decompression for thyroid orbitopathy will be discussed.

Methods: We report here the rare case of a patient who developed dural penetration during transconjunctival medial orbital decompression.

Results: At the end of the surgery, cranial computed tomography examination were performed under general anesthesia, and it showed that subarachnoid hemorrhage and hemorrhage in the fourth ventricle. The progression of the hemorrhage and ischemia stopped at the fourth day and the patient was awakened from general anesthesia. He had left upper and lower extremity paresis. The neurological and radiological findings were significantly improved at third week and resolved completely at third month.

Conclusion: Intracranial hemorrhage is a rare and severe complication of orbital decompression for thyroid orbitopathy. To noticed the dural penetration during surgery and close monitoring of the patient under intensive care conditions may help to decrease the neurological deficit and mortality rates.

P159

Ocular adnexal mass as the first sign of metastatic lung neuroendocrine carcinoma

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A 65-year old man was referred with a painless swelling in the lower eyelid of the left eye, causing significant narrowing of the palpebral rima. This had been growing progressively over a period of 3 months. A MSCT scan showed homogeneous, expansile, well-demarcated, solid, periorbital and orbital mass of soft-tissue-density, 25x19 mm, which indent the eyeball, and also making lateral and upwards eyeball dystopia, with inferior and medial rectus involvement and suspicious orbital floor defect. Patients past medical history was unremarkable, laboratory investigations, chest X-ray, abdominal and pelvic ultrasonography were in normal range. A long history of moderate to heavy smoking was noted. An eyelid skin-sparing orbital exenteration was made. Based on the histopathologic features/morphology and the immunohistochemical profile, a diagnosis of ocular adnexal metastasis from neuroendocrine carcinoma (presumably small cell lung carcinoma, a pure form) was found to be most compatible. Two months after surgery, an MSCT of the lungs was performed and primary lesion was found - on the right side, 30x25 mm hilar mass with hilar and mediastinal lymph nodes involvement. The patient was under chemotherapy and radiotherapy. Multiple brain metastases were found on MSCT. 21 months after diagnosis and treatment the patient died from the metastatic disease. There had been no local/orbital tumour recurrence during the course of the disease.



P160

Congenital microphthalmos with a large orbital cyst

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Background: To present a case of a young girl with a congenital microphthalmic left eye with a large orbital cyst, diagnosis and management.

Method: A two year old patient presented with a distended lower left eyelid, without a visible eye. CT imaging revealed a microphthalmic eye with a very large orbital cyst, which expanded the bony orbit. Primarily an aspiration of the fluid content was performed, but soon the cyst filled up again. In a secondary procedure the cyst was excised using cyst wall staining with a mixture of 2% methyl cellulose and trypan blue. After this the patient was fitted with a prosthesis, but the orbital volume deficit was too pronounced, so in another procedure, an enucleation of the microphthalmic eye was performed, and a dermis fat graft transplanted.

Result: After the dermis fat transplant, prosthetic management yielded a good esthetic result.

Conclusion: The described method of treatment required three surgical sessions. Alternatively a cyst aspiration with injection of a sclerosing agent could have been done to avoid having to excise the cyst.

P161

A case of bacterial meningitis and pneumo-orbit, on a background of previous orbital fracture repair with titanium plate

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We would like to present an interesting case of a 38yo patient with bacterial meningitis (of unexplained source) and pneumo-orbit, on a background of previous orbital fracture repair (2006), with titanium fenestrated plate.

The patient sustained orbital fracture 10 years ago playing rugby and a titanium orbital floor plate was inserted. He was well for 10 years until a few months prior to his meningitis in June 2018. He noticed proptosis with transient loss of vision on nose blowing.

This case has been managed successfully by the Ophthalmology, ENT and maxillofacial department at Chelsea & Westminster Hospital Foundation Trust.

P163

Orbital bony changes and exophthalmos in Woakes' Syndrome

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Woakes' Syndrome classically consists of sinonasal polyposis, broadening of the nasal pyramid, frontal sinus aplasia, bronchiectasis and dyscrinia. Only a few cases have been described. Ocular displacement is usually not considered a symptom of the disease. Only one case of hypertelorism in suspected Woakes' syndrome has been reported, in which no biopsy could be performed as the patient refused consent. No cases of exophthalmos in Woakes' syndrome have been described so far.

The etiology of the syndrome is unclear. Onset is usually during childhood. Treatment options are scarce.



Conservative measures tend to fail. Early surgical revision is recommended to avoid the development of facial deformities.

We report two cases of orbital bony changes and exophthalmos in Woakes' Syndrome confirmed by biopsy. Both patients eventually underwent orbital decompression surgery. To the very best of our knowledge these are the first two cases to be described.

P164

Aggressive bilateral, methicillin resistant staphylococcus aureus induced, septic cavernous sinus thrombosis in a girl

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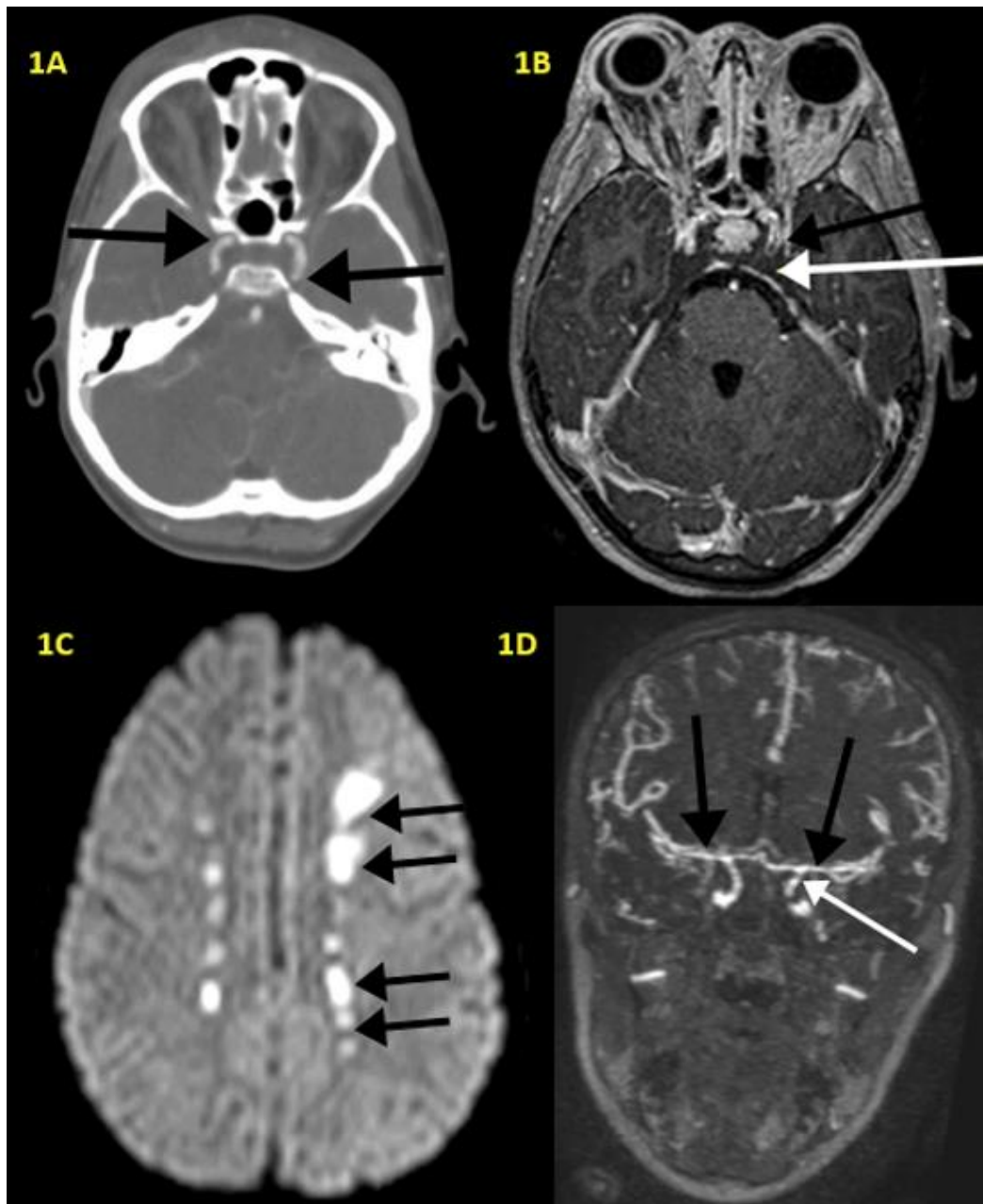
Objectives: To present the serious sequel of a girl, who developed severe fulminant bilateral septic cavernous sinus thrombosis from MRSA after a minor preseptal infection.

Methods: Case report

Results: A healthy 14-year-old girl had localized swelling and redness of the right lower eyelid 3 days prior to her admission. She attended ER with pyrexia and bilateral lid swelling. She had VA 6/9, swollen lids, slight conjunctival chemosis, otherwise normal ophthalmic examination, and elevated WBC & CRP. Although IV antibiotics were initiated, rapid deterioration in consciousness, meningeal signs and bilateral chemosis and proptosis developed. LP revealed meningitis. CTV/CTA and MRI revealed filling defects of the CS and SOV's, Cavernous ICA and MCA narrowing and wall enhancement with watershed brain infarcts.

No subperiosteal/preseptal/orbital abscess or sinusitis were evident in imaging. MRSA grew in blood and CSF. IV Vancomycin, Ceftriaxone, Rifampin, Methylprednisolone and anticoagulation were initiated. Under this regimen there was gradual improvement. Long follow-up examination revealed mild right hemiparesis, VA 6/9 bilaterally, right mild ptosis and Oculomotor paresis and left Abducens palsy. Follow-up MRI demonstrated severe bilateral ICA narrowing at the CS without new neurologic symptoms.

Conclusions: Bilateral MRSA septic CST, in children may have an unclear presentation and a rapid deterioration with extensive cerebrovascular damage. It's crucial to keep high index of suspicion, perform contrast enhanced imaging, and orchestrate a multidisciplinary team treatment based on broad-spectrum antibiotics, anticoagulation and surgical evacuation of any infectious focus when appropriate. Recent report of an urgent catheterization of a CST may signal future treatment.



[1A&1B: CTV & MRI, Bil CS filling defects & enhancement of the ICA (black 1B). 1C: Infarcts. 1D: MRA, ICA & MCA narrowing.]

P165

Patient with orbital metastases from cutaneous malignant melanoma treated with BRAF and MEK inhibitors - case report

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Objectives: Skin malignant melanoma very rarely metastasizes to the orbits, usually when a widespread metastatic disease is already present. Advanced malignant melanoma is treated with targeted therapy and immunotherapy, the most important being BRAF and MEK inhibitors, when mutations in the BRAF gene are present. The overall survival at 12 months with a combination therapy with BRAF and MEK inhibitors is 72%. A case report of a 41-year-old man who came to our clinic with signs of the orbital cellulitis in his left eye, turned out to be orbital metastases, is presented.



Methods: Patient presented with painful proptosis, erythema, eyelid oedema, chemosis, severely affected visual acuity and limited eye movements. He denied any other health problems. CT scan, orbital US and head MRI excluded orbital cellulitis, but numerous tumorous changes in both orbits, brain and in subcutaneous tissue raised suspicion of neurofibromatosis. The third day of hospitalization, the patient finally showed a large tumorous lesion on abdominal skin. An incision biopsy of skin tumor was performed and malignant melanoma confirmed, with a BRAF-MEK-ERK cell-growth signaling pathway mutation. There were signs of a widespread metastatic disease on abdominal US. Oncological treatment with dabrafenib and trametinib followed the excision of the skin tumor.

Results: 6 weeks after initiation of treatment proptosis evidently regressed. There was slightly limited abduction and depression of the left eye. The BCVA improved from 0.16 to 0.8, with normal color vision. The orbital US showed pronounced regression of the metastases. There was a marked improvement in the patient's overall status.

Conclusions: Orbital metastases of skin malignant melanoma are rare and occur in a widespread metastatic disease. BRAF and MEK inhibitors are effective therapy causing orbital metastases regression and improvement in the ocular and systemic status of the patient.

P166

Neurological complications from sinogenic Orbital Cellulitis: case series

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Background: Orbital cellulitis is a sight and life threatening emergency requiring prompt recognition and treatment. Life threatening complications include systemic sepsis, meningitis, brain abscess formation and cavernous sinus thrombosis. Majority of orbital cellulitis is sinogenic in origin, and have potential to be associated with neurological complications due to anatomical proximity between orbital, sinuses and intracranial compartments. Neurological complications can result in significant morbidity with prolonged hospital stay, long course of intravenous antibiotics and missed work or school. Our aim is to discuss 6 cases seen within a year at Manchester Royal Eye Hospital of sinogenic orbital cellulitis, which were associated with neurological complications.

Methods: We analysed data of orbital cellulitis cases seen over a course of a single year within a tertiary treatment centre, that had associated neurological complications. We reviewed neuroimaging, microbiology results, analysed number of surgical procedures, length of stay and type of antibiotics administered.

Results: 6 patients M:F 2:1, age 12-54, were treated for Orbital Cellulitis which had associated neurological complications. All had associated significant sinusitis. 4 had diagnosis of secondary brain abscess and 2 had meningeal enhancement on neuroimaging. 5 patients required Orbital Abscess drainage, and all 6 required ENT input and sinus drainage. Further 3 underwent neurosurgical procedures. Length of stay was between Neuroimaging presented. Drainage of orbital collection, in all but one case where orbital drainage was not required, did not address the neurological complications and further surgical modalities were required to address sinus pathology or brain collection.

Conclusions: We wish to raise awareness amongst Orbital surgeons and encourage close collaboration between ENT and neurosurgical colleagues where such patients are encountered. Drainage of orbital collection is insufficient unless the underlying pathology is addressed concurrently.



P167

Oculoplastics-related interventional clinical trials analysis

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Purpose: To identify and analyze trends in oculoplastics-related interventional clinical trials from 1993-2018.

Methods: We conducted a retrospective, cross-sectional study of completed and discontinued, oculoplastics-related interventional clinical trials in ClinicalTrials.gov dating back to 1993. Data was collected from the registry and the final search was performed on April 2, 2019. The data that was analyzed included interventional type, trial phase, enrollment, funding sources, and trial phase, among others.

Results: A total of 88 studies were identified whereby 53 (60%) were academic-sponsored. There were 72 completed trials and 16 discontinued trials. There was more than a three-fold increase in the number of trials from the period before 2008 relative to the period of 2009-2018. Only 16% (n=14) of trials posted their trial results. The interventions employed in the included trials was a drug (n=51; 58%), device/procedure (n=33; 38%), and other (n=4; 5%). The majority of trials were performed in an unknown phase (n=33; 38%) and phase 2 (n=19; 22%) settings. Seventeen publications from fifteen trials were identified via PubMed/MEDLINE, Google Scholar, and EMBASE. Seventy-three trials were not published representing a total of 3,967 patients undergoing trial participation.

Conclusions: There has been a marked upsurge in research investment for oculoplastics-related research with marked increases in just the past decade. This has led to the development and propagation of a host of novel drugs, devices, and procedures. However, sustained investment from both academia and industry is necessary for the continual advancement of oculoplastic treatment.

P168

Recurrent self-induced orbital emphysema causing orbital compartment syndrome

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Objectives: We would like to present a case of recurrent self induced significant orbital emphysema which was managed by needle aspiration in the emergency department due to compartment syndrome signs, to save the vision.

Methods: A 51 year old man presented to the Emergency Department late at night with significant non-axial proptosis and reduced visual acuity of the right eye and was complaining of diplopia. He had tried to "unblock his ears" by performing a Valsalva manoeuvre involving attempted exhalation with a closed mouth and whilst pinching both nostrils. He mentioned he performed this Valsalva manoeuvre on a daily basis, and that this often caused proptosis of the right eye.

Examination showed non-axial proptosis of the right eye with the globe displaced laterally and inferiorly. Visual acuity in this eye was reduced to 6/21 (6/12 in left eye) and he had diplopia. He still retained a good range of eye movement and fields were full. Pupil examination showed a relative afferent pupillary defect (RAPD) in the right eye. Intraocular pressure (IOP) measure by Goldmann applanation was surprisingly within the normal range at 12 mmHg. Fundoscopy showed no optic nerve changes.

The CT scan showed significant orbital emphysema in the medial aspect of the orbit. There was a suggestion of a small bony defect in the superior aspect of the medial orbital wall. Needle 16G decompression was performed and 7 mL of air was aspirated from the orbit resulting in immediate resolution of his proptosis, diplopia, vision and IOP.

Discussion: We present the first case of which we are aware where non-traumatic orbital emphysema has resulted in orbital compartment syndrome severe enough to cause optic nerve dysfunction. This case demonstrates that a lack of a history of trauma and a normal IOP cannot always be used to rule out serious pathology.



P169

Profiling for distress requiring intervention via the National Comprehensive Cancer network distress thermometer in uveal melanoma patients

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Background: To assess a profile of uveal melanoma patients requiring active psychooncological intervention employing the results of the National Comprehensive Cancer Network (NCCN) distress thermometer.

Methods: Descriptive statistics, multivariate correlation and multiple linear regression analysis of data collected from 106 consecutive patients suffering from uveal melanoma.

Results: Distress levels correlated with practical ($p = 0.011$), emotional ($p = 0.003$) and physical problems ($p = 0.001$) as well as the total number of issues reported ($p < 0.000$; ANOVA respectively). Emotional issues added up to 39% of influence on distress levels in our correlation model (adjusted $R = 0.391$). Nervousness, worry and sadness as the most important emotional issues tested correlated significantly with anatomic stage, tumor T-stage, metastatic status and time after primary diagnosis and were present more frequently in patients that reported higher distress levels ($p < 0.001$, $p = 0.002$, $p = 0.004$, respectively, Fisher's exact test).

Pre-existing psychooncological support was more frequent in metastatic patients and patients with higher anatomic stage tumors ($p = 0.008$ and $p = 0.003$; Fisher's exact test).

Conclusion: The NCCN distress thermometer proved to be useful for rapid assessment of patients requiring active intervention. A higher number of distress items recorded correlates with elevated distress levels. Emotional issues are responsible for the vast majority of problems. A typical patient profile that needs close attention of caregivers includes high anatomic stage, high T-stage, presence of metastases and early follow-up.

P170

Routine multicolour flow cytometry (FCM) analysis in orbital biopsies for suspected lymphoproliferative disorders

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Objective: To compare specificity and sensitivity of classical histology, immunophenotyping (IHC) and molecular analysis, and evaluate the role of FCM analysis in the routine study of orbital mass biopsies with suspected lymphoproliferative disorders.

Methods: Retrospective, consecutive case-series of orbital biopsy patients over a 8-year period (2011-2019) for lymphoproliferative malignancy suspect, who had classic histology with IHC and FCM analysis, in one centre. Monoclonality was assessed by either kappa and lambda light-chain restriction (IHC and FCM) or fragment length analyses (FLA) for the immunoglobulin heavy chain complementarity determining region 3. Malignancy was determined by i) light-chain restriction, ii) monoclonal FLA or iii) morphology. All analyses were interpreted independently.

Results: Complete analyses were obtained from 31 patients. The median age was 60.0 (17-89) years, 64.5% female. A malignant disease was identified in 77.4% of cases, with extranodal marginal zone lymphoma MALT subtype ($n=22$) and chronic lymphocytic leukaemia ($n=2$). The remaining seven cases exhibited chronic orbital inflammation. FCM showed a sensitivity and specificity of 0.86 and 1.0 respectively in diagnosing malignancy. Monoclonality assessment was concordant between IHC and FCM in 15 patients (62.5% of cases). Six cases with monoclonality only in FCM analysis were observed compared to three cases only monoclonal in IHC. In total, the introduction of FCM analysis identified one more malignant case that was not identified by pathology and IHC alone (3% improvement in false-negativity rate).



Conclusions: By analysing many antigens at the same time, FCM is able to identify the disease type more rapidly than pathology and IHC, tumour cell infiltrate can also be assessed simultaneously by analysing accessory cells. Additionally, its high sensitivity and specificity proved this technique to be a useful tool in identifying a malignant orbital process in lymphoma suspects.

P171

Accelerated growth of orbital Schwannomas during pregnancy: a clinicopathological study

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Purpose: Until now, three cases of growth of an orbital Schwannoma during pregnancy have been published. We aim to provide additional insight in the effect of pregnancy on orbital Schwannomas.

Methods: We present two additional cases of orbital Schwannomas that showed growth during pregnancy. Also, we investigate expression profiles for estrogen, progesterone, androgen and ki-67 in the two cases and compare these to the expression profiles of six non-pregnant cases.

Results:

Case 1: A 26-year-old woman developed unilateral exophthalmos during pregnancy, with normal visual acuity and ocular motility. During a subsequent pregnancy, again the exophthalmos progressed. MRI showed a mass suggestive of a Schwannoma. After delivery, resection of the lesion was performed through an anterior approach. Pathology confirmed Schwannoma. The expression profile was slightly positive for estrogen receptor and ki-67, but negative for progesterone- and androgen receptors.

Case 2: A 24-year-old woman presented with diplopia and unilateral pain during pregnancy. She had normal visual acuity, but a mild exophthalmos and elevation deficit. MRI revealed an extraconal mass suggestive of Schwannoma. After delivery, resection was performed through an anterior approach. Pathology confirmed the diagnosis. The expression profile was slightly positive for ki-67, but negative for estrogen-, progesterone- and androgen receptors.

In the other six non-pregnant cases the expression profiles varied, with only one subject showing a very strong expression of estrogen-, progesterone- and androgen receptors.

Conclusion: Orbital Schwannomas can experience growth during pregnancy. The underlying mechanism remains unclear as hormone expression profiles appear to show no correlation to the pregnant state.

P172

Evisceration with cornea preservation: does it matter?

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Background: Evisceration with cornea preservation has been short studied in literature. The aim of the study is to compare the results between cases of evisceration with cornea preservation and cornea excision in terms of; size of the implant, prosthesis motility and rate of complications.

Methods: This is an on going study to study the outcomes of evisceration with preservation of the cornea and with excision of the cornea. Size of the implant, motility of the prosthesis and rate of complications were measured and noted in all cases to demonstrate if there are any benefits from preserving the cornea during evisceration.

Methods: 57 patients underwent evisceration 29 of which the cornea was preserved (Group 1) and 28 had their cornea excised (Group2). Different pathologies are included in the study, age (24 - 75) , sex (35 males, 22 females), follow up was done for 12 - 18 months. Excluded were the cases with poor cornea and paediatric age group. A 270° corneal incision in the cornea is made after periotomy followed by evisceration of all contents. A scleral incision is done on one side with posterior sclerectomies in some cases and then the orbital implant is put.



Results: Larger implants were able to be put in Group 1 with a better ocular motility of the prosthesis compared to Group 2. Rate of complications was almost the same with 1 case of corneal melting in Group 1.

Conclusions: In selected cases, evisceration with preservation of the cornea is a safe efficient technique that holds better outcomes in terms of patient's satisfaction than cases with excision of the cornea.

P173

Orbital and adnexa sarcoidosis: analysis of clinical features and treatment outcomes

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Sarcoidosis is a multisystem disease of unknown origin characterized histologically by noncaseating granulomas. Although chronic or acute uveitis are the most common manifestations, it also affects orbit, adnexa and lacrimal drainage system. Within the orbit, lacrimal gland is the main topography, soft tissue and optic nerve involvement are rarely described. Main symptoms are eyelid swelling, ptosis, eye displacement. Orbit and adnexa sarcoidosis is usually associated to systemic disease. Even though image studies might be useful, gold standard diagnosis is determined by biopsy and histopathologic analysis. Systemic steroids therapy is the advised treatment with low recurrence rate. In this study we retrospectively review clinical features, image and histopathology studies, management and prognosis of biopsy proved orbit and adnexa sarcoidosis.

Retrospective review of medical charts of patients with histopathologically confirmed orbit and adnexal sarcoidosis managed at the Ophthalmology Department of Santa Casa de Misericórdia de São Paulo from 2013-2018.

Three patients met the inclusion criteria, 2 males and 1 female. Mean age was 51 years old. The most common ocular symptom was eyelid swelling, followed by palpable mass and ptosis. Lacrimal gland was affected in 2 patients and lacrimal sac in 1. Sarcoidosis was confirmed by incisional biopsy. All patients were responsive to systemic steroids therapy, without recurrence. 2 patients presented lung CT alterations and evidence of mild obstructive pulmonary disease without further treatment necessary.

In our study, demographic data, signs and symptoms and systemic therapy response are similar to literature. Long term follow up is necessary due to recurrence.

	Number of cases
Age	51 +- 6,48 (45-60)
F/M ratio	1:2
Location	
Lacrimal gland	2
Lacrimal sac	1
Signs and Symptoms	
Eyelid swelling	2
Palpable Mass	2
Ptosis	1
Systemic disease	2
Response to treatment	3
Recurrence	0

Table 1. Summarizes clinical findings and surgical outcomes of orbit And adnexa sarcoidosis

[Table 1]



P174

How to take care of ocular prosthesis, trying to set guidelines for patients prosthetic daily care

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Background: Anophthalmic socket mucoid discharge is a distressing condition that affects patient's quality of life. Specific factors associated with this condition are not well understood, and there is no evidence based protocol for prosthetic eye hygiene. The aim of our study was to identify factors that are associated with discharge and establish a unified protocol for prosthesis hygiene and care.

Methods: Anophthalmic patients, attending the ocularist clinic were included in our study.

We collected demographic, medical history and prosthesis hygiene habits data. An ophthalmologic examination was performed for socket, and prosthetic disclosing solution biofilm dye. Anophthalmic socket culture swab was collected. Prosthesis was polished.

Patients were divided into two groups: Patients with mucoid discharge-the study group, and patients without discharge- the control group. Patients were telephoned two weeks post visit and asked if the discharge improved. If not, topical antibiotic treatment was prescribed according to culture results.

Results: Among 109 participants, 72 (66%) had socket mucoid discharge on examination. Washing the prosthesis with water only was found to be a risk factor for discharge. Patients reported discharge improvement after topical corticosteroid use, and frequent removing of prosthesis. There is a significant positive correlation between discharge parameters and biofilm staining. Gram negative bacteria were more frequent in the research group. Up to 90% of all participants reported less discharge and better comfort after prosthesis polishing.

Conclusions: We suggest the following hygiene guidelines for anophthalmic patients:

Frequent cleaning using soap and water to prevent gram negative bacteria contamination. Disclosing solution is a good tool to evaluate prosthesis biofilm. Annual polishing improves symptoms in most prosthesis eye wearers. Patients with gram negative bacteria and discharge may benefit from topical antibiotic treatment. Topical corticosteroids may be suggested in symptomatic culture negative patients.

P175

Modified Johnson square procedure for periocular lentigo maligna and lentigo maligna melanoma: a single centre UK study

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Objective: Lentigo maligna (LM) and lentigo maligna melanoma (LMM) in the periocular region are rare entities, and are often difficult to manage due to poorly defined borders and the presence of sub clinical spread. Recurrence rates for LM/LMM with standard excision techniques range from 9-31%. The objective of this case series is to demonstrate outcomes using a modified Johnson square procedure for LM and LMM in the periocular region.

Methods: Retrospective review was undertaken for all patients undergoing modified Johnson square procedure for LM/LMM in a single centre (Royal Victoria Infirmary, Newcastle). Modified Johnson square procedure involves marking a 2-3mm margin around the lesion, with an additional 2-3mm margin around the first to complete a total 5mm margin. These strips are assessed using en face permanent section histological analysis by fellowship trained Mohs surgeons, with further margins taken where positivity is found.

Results: Twenty eight patients were included. Average age was 73 (range 50-95). Twenty patients were categorised as LM, 8 LMM, with 26 representing primary disease, and 2 recurrent. Mean duration of lesion was 44 months (range 4-180 months). Mean number of stages required was 2 (range 1-5). Mean follow was 18 months (range 6- 51 months). Mean diameter of pre operative lesions was 19.5 x 13.8mm, mean



post excision defect was 32.7 x 21.9mm. Two patients had local recurrence (7.1%). All defects underwent primary closure, or delayed closure under oculoplastics.

Conclusions: To our knowledge this represents the largest cohort of patients with periocular LM/LMM treated using a modified Johnson square procedure, interpreted using en face permanent section histological specimens by a Mohs surgeon. The recurrence rate is lower than standard excision techniques, though slightly higher than some quoted microscopic margin control techniques.

P 176

Vismodegib for periocular basal cell carcinoma: a multicentre case series

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Objective: Vismodegib is a first-in-class Hh (Hedgehog) pathway inhibitor, previously available for the treatment of basal cell carcinoma (BCC). It has recently been withdrawn by the National Institute for Health and Care Excellent (NICE) due to apparent lack of benefit, and questions over cost-effectiveness. The purpose of this study is to present a multicentre case series of patients treated for advanced periocular BCC using Vismodegib.

Methods: Six patients were included in this multicentre case series. Basic demographic data was obtained using a standard data collection sheet, alongside BCC characteristics, nature of orbital involvement (if any), response to treatment, side effects, and adjuvant treatment.

Results: Average age was 75 (61-90). Four tumours were deep ulcerating lesions at the medial or lateral canthi, and 2 were irregularly defined tumours. Three patients (50%) demonstrated orbital involvement. Three patients represented recurrent disease (50%). One patient had full regression of the BCC, and 4 had a partial response (1 patient had a lack of data to determine response). Five out of six patients experienced side effects, though most frequently fatigue was encountered. Two patients underwent subsequent resection and one patient radiotherapy. Mean Follow up period was 27 months (11-78 months).

Conclusions: Whilst Vismodegib has been withdrawn from use in the National Health Service, there remains a strong case for its use in selected scenarios. In particular, it is likely to have utility in advanced BCC with orbital invasion, where globe sparing surgery is sought.

P177

Intralesional bleomycin for orbital lymphangiomas

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Objectives: Orbital lymphangiomas (LM) are vascular malformations once thought to be neoplasms of benign nature. Complications are secondary either of the slowly growth of the mass or the eventful intralesional hemorrhage. Proptosis, ocular motility restrictions, cellulitis or compressive optic neuropathy are the most common ones. Treatment can be challenging due to the impossibility of total surgical resection. Hence, other alternatives have been developed. Here we report the characteristics and results of 8 Spanish patients diagnosed of orbital LM and treated with drainage and application of intralesional bleomycin as a sclerosant.

Methods: Medical records of 8 patients diagnosed with orbital LM at Hospital Ramon y Cajal from February 2016 to May 2019 were retrospectively reviewed.

Results: The mean patient age at presentation was 21.75 years (range, 4 to 65; median, 18). Three patients were male and five were female. The mean follow-up period was 19.25 months (range, 3 to 40). All of the patients initially presented with proptosis due to lesional hemorrhage and mass effect of the tumor. The cause of bleeding was mainly a spontaneous event (n = 7). All LM were from the deep subtype. In



patients that could be tested for visual acuity ($n = 6$), all had a visual acuity at presentation above 20/50. During treatment, no patients did experience any further impairment of visual acuity. Two had compressive optic neuropathy at presentation and two patients experienced a recurrence of one or more hemorrhagic episodes. Both underwent a second aspiration of blood and received an intralesional injection of bleomycin. **Conclusions:** We suggest that aspiration of blood and intralesional injection of bleomycin as a sclerosant is a safe and effective procedure for the treatment of orbital LM. This case series is the largest describing manifestations and treatment outcomes of orbital lymphangioma in the Spanish population.

P 178

Postoperative masticatory oscillopsia after orbital lateral wall decompression

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Objective: To assess the incidence of masticatory oscillopsia after orbital lateral wall decompression, comparing results between isolated lateral wall decompression and balanced or three wall orbital decompression.

Methods: A observational retrospective study of consecutive patients undergoing orbital decompression between 2008 and 2018 was conducted. Surgical approach for lateral wall decompressions was performed by lateral orbitotomy with orbital rim repositioning. Patients clinical data were registered, and archives were revised for data compilation. Patients were divided in two groups according to the type of surgery: the "lateral" group included patients who underwent isolated lateral wall decompression, while the "lateral plus" group involved patients with balanced or three wall decompression. Exclusion criteria were secondary decompressions and those not including the lateral wall. Oscillopsia was self-reportef and it was registered as present or not.

Results: 161 consecutive patients that underwent orbital decompression were analyzed. 3 patients with secondary decompression and 23 patients with orbital decompression not including the lateral wall were excluded. Statistical analysis among the remaining 135 patients with lateral wall decompression (isolated or in combination) was performed.

Seven patients referred postoperative masticatory oscillopsia, 5 of them among "lateral" group, while only 2 reported oscillopsia on "lateral plus" group ($p=0,001$).

Conclusions: Oscillopsia was significantly higher after isolated lateral wall decompression (26,3%) than after balanced or three wall decompression (1,7%). Transmission of temporal muscle contraction to the orbit seems to be the cause of masticatory oscillopsia after orbital decompression. The fact that oscillopsia is much higher among patients after isolated lateral wall decompression than after balanced or three wall decompression could be explained by the orbital contents impossibility to "escape" the temporal muscle throughout medial or floor gaps, suggesting that the medial wall may act as a buffer for the lateral contractions.

P179

The role of Interleukin-17A and NLRP3 inflammasome in the pathogenesis of Graves' ophthalmopathy

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Objective: The development of Graves' ophthalmopathy (GO) is associated with self-immune dysfunction. Recent findings in GO indicate that IL-17A, inflammasome and related cytokines may also be involved in the autoimmunity of GO. We sought to investigate the pathogenic functions of IL-17A and NLRP3 inflammasome in GO.



Methods: Orbital fat specimens were collected from 30 GO patients and 30 Non-GO controls. Immunohistochemical staining of orbital fat tissues and culture of orbital fibroblasts were conducted in GO and Non-GO groups. Then, IL-17A was added to the fibroblast cultures, and cytokine expression, signaling pathways, and inflammasome mechanism were investigated using real-time RT-PCR, ELISA, Western blot, and small interfering RNA (siRNA).

Results: Immunohistochemical staining of orbital fat specimen showed more expression of NLRP3 in orbital tissue of GO, compared with normal subjects. Interleukin-17A upregulated the mRNA levels of pro-IL-1 β and the protein level of IL-1 β in GO group. Furthermore, IL-17A was validated to enhance caspase-1 and NLRP3 protein expression in orbital fibroblasts, suggesting NLRP3 inflammasome activation. When siRNA transfected the orbital fibroblasts, NLRP3 expression was knockdown significantly and IL-17-mediated pro-IL-1 β release was also downregulated.

Conclusion: Our observations illustrate that IL-17A might promote IL-1 β production from orbital fibroblasts via the NLRP3 inflammasome in Graves' ophthalmopathy, and subsequent cytokines could induce more inflammation and autoimmunity. This gives us the clues to target therapeutic potential for GO in the future.