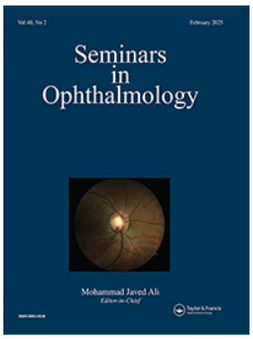

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EDITORIAL

Lacrimal History – Part 27: Doyens of Dacryology Series – Geoffrey Edward Rose (1955–)

In the twenty-seventh part of the series on the fascinating history of Dacryology, I will evaluate the lacrimal drainage contributions of another Doyen – Geoffrey Edward Rose. While this paper will include a few biographical details of the Doyen, their specific publications related to lacrimal drainage sciences will remain in the spotlight. Each paper has its merit, and most, if not all, contribute to science incrementally or exponentially. However, if there are several research works and treatises, discussing each would not do justice to the central theme of this series, which is to highlight those that have significantly contributed to the progress or development of lacrimal drainage sciences. Hence, those that are more notable and crucial will be discussed.

BIOGRAPHICAL MILESTONES (Fig 1)

Geoffrey Edward Rose was born on the 17th of January 1955 in Purley, Surrey, United Kingdom. He was born in an academic household (all non-medical!) to Prof. Horace Edward Rose and Dr Yda C. Rose.

Rose completed his B.Sc in pharmacology at King's College, London, followed by medicine (MBBS) at the same place in 1979. He obtained his FRCS in 1985, FRCOphth in 1988, and MS in 1989. He was also honoured with DSc in ophthalmic surgery in 2001 by the University of London.

In 1983, Rose was appointed as an Ophthalmology Registrar at the St. Thomas Hospital, London. He then joined the reputed Moorfields Eye Hospital, London, in 1984 as a senior registrar and spent more than four decades there (Rose was still working as a consultant at Moorfields at the time of this writing). He enrolled in a fellowship program (1988–1989) in Orbits and Lacrimal Surgery at Moorfields under the mentorship of Richard Welham. Rose was appointed as a consultant soon after the fellowship in the Orbital, Lacrimal, and Adnexal Services at Moorfields, a position he holds to date. He was also an honorary professor at the University of London in 2011.

Geoffrey Rose's contributions have been extensive and spanned across the length and breadth of ophthalmic plastic surgery. He has published extensively over the last four decades in all the major journals in ophthalmology (Of the 300-plus publications, more than 50 relate to the lacrimal drainage sciences). It is therefore not surprising that several of Rose's scientific contributions were recognized with nearly 30 awards and 23 named lectures, the most notable of which include the Wendell Hughes lecture, Lester Jones anatomy award, Mustarde lecture, Claffy lecture, Mooney lecture, Dame Ida Mann lecture, Middlemore lecture, P.J.Hay lecture, Walter Wright lecture, Boerhaave lecture, Norman Gregg lecture, Peter Rogers lecture, and Murube del Castillo lecture.

Geoffrey Rose was the president of several major societies of his subspecialty, including 'European Society of Ophthalmic Plastic and Reconstructive Surgery (ESOPRS, 2015–2017), British Oculoplastic Surgical Society (BOPSS, 2007–2009), and deputy president of the International Society of Dacryology and Dry Eye Disease (ISDDE). Recognizing his contributions, the 'Royal College of Ophthalmologists' and the 'American Society of Ophthalmic Plastics and Reconstructive Surgery' (ASOPRS) elected him as their 'honorary fellow'. His influence can be gauged by his civilian honorary appointments to the 'Board of Trustees' of 'The British Thyroid Foundation' (2010–2016) and 'The Society Assistance Medical Families' (1997-till date).

SIGNIFICANT CONTRIBUTIONS TO THE LACRIMAL SCIENCES

Of the nearly 50 lacrimal publications, at least a dozen can be considered to have significantly enhanced our understanding or management of lacrimal drainage disorders.[1–15] Foremost amongst this dozen include the concepts of hydraulic 3-compartment lacrimal drainage model, ultrasonic assessment of a DCR osteotomy, long-term outcomes of Lester-Jones tubes (LJT), long-term outcomes of lacrimal papilloma, air-reflux, functional epiphora, and antibiotic prophylaxis in lacrimal surgeries.[1–17]

Rose proposed a unique 3-compartment hydraulic model of the lacrimal drainage system (LDS).[1] The tear lake, lacrimal sac, and nasal cavity can be considered as the first, second, and third compartments, respectively. These compartments are joined by two conduits of relatively high resistance: the lacrimal canaliculi and the nasolacrimal ducts. Rose's model successfully explained two critical aspects of lacrimal drainage: "volume" and "flow" characteristics and the clinical scenarios of lacrimal paradox where the subjective patient's assessment of success may not match the objective anatomical and physiological success. Based on Rose's hypothesis, it was clear that a 3-compartment model needs to be converted to a 2-compartment model to address the volume symptoms. Rose correctly proposed that this can be achieved by eliminating the lacrimal sac from the equation by creating larger osteotomies.[1,9] This was later re-emphasized in his study using ultrasound to measure the post-operative reduction of the rhinostomy.[8]

Rose was one of the earliest to propose that intraoperative antibiotic prophylaxis has advantages of compliance and

Figure 1. Geoffrey Edward Rose (1955-).

economics and is as effective as post-operative prophylaxis for the prevention of soft tissue cellulitis following an external DCR.[7]

While air reflux after DCR surgery was known, Rose was the first to systematically assess air reflux and found that it was a common occurrence.[12] It may go unnoticed in many patients unless they perform Valsalva. Although it may persist in a significant number of patients, it is rarely troublesome. He also proposed that the valve of Rosenmüller (VOR) may not act as a one-way valve for airflow, a concept that needs to be revisited in light of newer insights.[17,18]

Rose did a commendable service to the science of lacrimal drainage disorders when he published his 25 years of experience with Lester-Jones tubes and later followed it up with very long-term outcomes.[4,5] He provided the first recorded evidence that LJT can be tolerated for as long as four decades and that some patients can retain the originally placed tubes with appropriate maintenance.[5]

Rose was a proponent of retrograde intubation DCR for proximal and mid-canalicular obstructions.[10] The technique did not gather widespread support, and the recent evidence in the subset of punctal agenesis patients needs to be considered.[19]

The long-term outcomes (mean – 10.4 years) of primary benign papillomas of the LDS demonstrated a recurrence in about one-third of the patients.[6] Endophytic and mixed variants showed more recurrence than the exophytic type, with the need for prolonged surveillance. This work of Rose provided the much-needed guidelines for the management of benign papillomas. His observation regarding the direct spread of Wegener's granulomatosis from the nose to the orbit via the DCR rhinostomy was astute.[14] He was one of the earliest to demonstrate that there was a very limited bony regrowth following a DCR osteotomy,[9] an observation that has stood the test of time to date.[20]

Rose's other significant contribution was in the area of functional obstructions or functional epiphora.[1–3,16,17] He believed that the term 'functional nasolacrimal duct obstruction' was misleading since it is a group of inhomogeneous clinical scenarios. He proposed a sequential approach to managing such complex cases with initial medical management followed by assessing and addressing lateral and medial spillage of the tears. His assessment of more than 600 patients with symptomatic NLD stenosis provided significant insights into the grey zone between functional epiphora and NLD obstructions. He convincingly showed that in cases of functional epiphora, dacryoscintillography (DSG) tracer clearance can be abnormal in both symptomatic eyes and asymptomatic fellow eyes and that it does not add significantly to the results of a good clinical examination.

CONCLUSION

A review of Rose's contributions reveals that he is an astute clinician and a visionary Dacryologist. While several individuals have historically contributed to the understanding of lacrimal physiology and management of functional epiphora,[21–25] Rose provided evidence-based insights and added fresh perspectives and new ways to approach complex lacrimal disorders. Several of Rose's observations, including those on lacrimal physiology and tear flow dynamics, continue to hold high value several decades after their initial description. His contributions have carved a special place for themselves, and his name is etched in the history of lacrimal disorders. Rose is still active, and the lacrimal world immensely benefits from his wisdom. We can, for sure, expect several more benchmark works from his clinics.

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