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Clinico-radiologic characteristics of lacrimal sac area swellings misdiagnosed as dacryocystocele or mucocele

Purpose: Several non-lacrimal lesions can present with lacrimal sac area swelling mimicking a dacryocystocele or mucocele with a possibility of misdiagnosis. This study investigates the clinic-radiologic characteristics of the mimicking conditions compared to true lacrimal sac distension.

Design: Retrospective, comparative, interventional case series

Participants: Patients referred by primary care ophthalmologists between January 2015 and October 2021 with a misdiagnosis of dacryocystocele or lacrimal sac mucocele (n =39) and an age-matched group of proven true lacrimal sac swelling (TLS group, n=44).

Methods: Data collected included demographics, presenting features, investigations, management, histopathology, and outcomes. Both groups were statistically compared for several clinical and radiological variables.

Results: Final diagnoses in the mimicking group were skin/subcutaneous swellings (14/39, 35.9%), vascular malformations (10/39, 25.6%), inferomedial anterior orbital cysts (7/39, 17.9%), sino-orbital masses (5/39, 12.8%). Female gender (<0.001), epiphora (p =0.001), and discharge (p < 0.001) were significantly more frequent in the TLS group. The mimicking group was more likely to be associated with a longer swelling duration (p < 0.001), a swelling extending beyond the lacrimal sac area (p <0.001), orbital signs (p <0.001), and periorbital abnormality. Non-patent lacrimal irrigation (p < 0.001) was significantly more frequent in the TLS group. On imaging, all swellings in the mimicking group were separate from the lacrimal pathway and 94.9% (37/39) extended beyond the lacrimal sac fossa.

Conclusion: Various cutaneous, subcutaneous, vascular, inferomedial orbital cystic, and sinonasal pathologies can present with lacrimal sac area swelling and mimic a TLS. A high index of suspicion, a thorough clinical evaluation and proper imaging are essential to avoid a misdiagnosis.