

Case Report Oculoplasty

## Dermoid cyst simulating mucocele of lacrimal sac: A case report

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### ABSTRACT

A dermoid cyst in the orbit is a choristoma (clump of normal tissue in an atypical location). It results from the migration of ectoderm to a hypodermic location along embryonic lines of closure. Orbital dermoid cysts are usually located superiorly, either temporal or nasal. A dermoid cyst situated close to the lacrimal sac area is extremely rare (Only six published cases to the best of our knowledge). Here, we report a case of a dermoid cyst presenting with swelling over the lacrimal sac area simulating mucocele. The mass was excised by an external dacryocystorhinostomy (DCR) incision approach and the histopathological examination revealed a dermoid cyst. Although rare, the dermoid cyst should also be considered as one of the differential diagnosis in case of swelling in the lacrimal sac area.

**Keywords:** Dermoid, Lacrimal, Mucocele

### INTRODUCTION

A dermoid cyst in the orbit is a choristoma (clump of normal tissue in an atypical location). It results from the migration of ectoderm to a hypodermic location along embryonic lines of closure.<sup>[1]</sup> The size of the cyst increases gradually due to production of sebaceous and sweat glands inside the lesion.<sup>[2]</sup> Orbital dermoid cyst usually present with a non-tender swelling located superiorly, either temporal or nasal.<sup>[1]</sup> Superficial orbital dermoid cysts lying near the nasolacrimal passage are rare.<sup>[3]</sup> Microscopically, dermoid cysts are lined by a stratified squamous keratinizing epithelium.<sup>[4]</sup>

### CASE REPORT

A 31-years-old Indian female reported with painless swelling medial to the medial canthus of the right eye which was gradually enlarging in size for the past 2 years as shown in [Figure 1]. It was also associated with watering of the right eye. The mass was firm in consistency measuring about 10 × 5 mm, not adherent to skin, and no tenderness was observed with regurgitation of pus on pressing the lacrimal sac area negative.

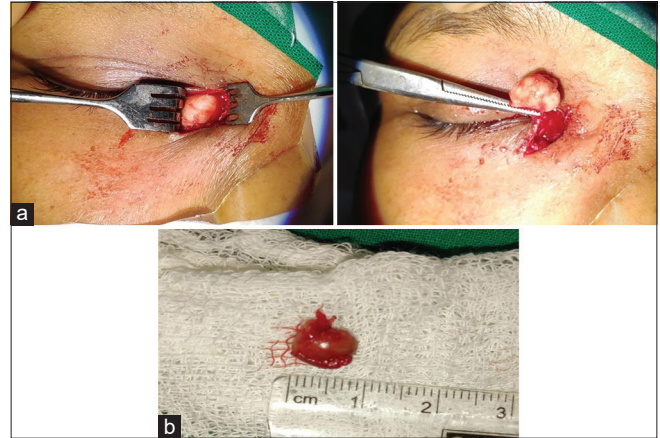
Suspecting it to be mucocele of the lacrimal sac, syringing of the lacrimal passage was performed and it turned out to be patent.

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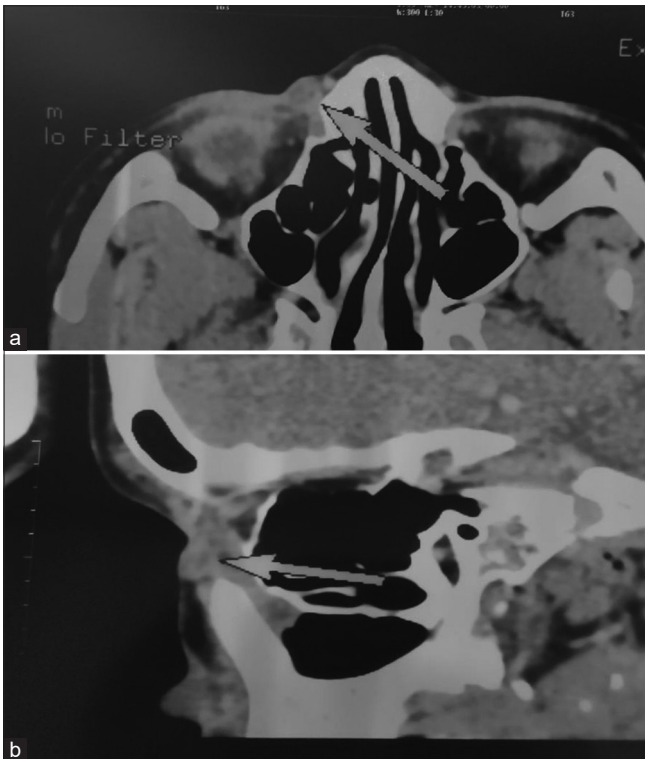
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**Figure 1:** Pre-operative picture showing the swelling medial to medial canthus.



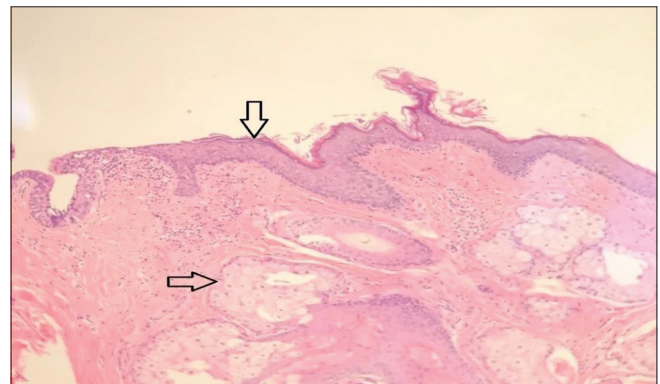
**Figure 3:** (a) Operative pictures – mass excised *en masse*, (b) Excised gross specimen.



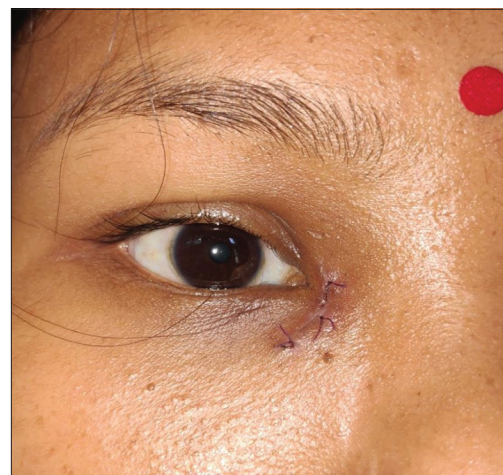
**Figure 2:** (a) CT-Scan (Axial Cut) – Arrow showing the mass, (b) CT-Scan (Sagittal Cut) – Arrow showing the mass.

On CT-scan, a mass was observed in the lacrimal sac area with no intra-orbital or intracranial extension as shown in [Figure 2]. All the hematological tests were within normal limit.

The mass of 5 mm × 8 mm size was excised *en masse* through an incision of DCR approach under local anesthesia. After giving a curvilinear incision, 3 mm medial to the medial canthus, the orbicularis muscle fibers were separated followed by appearance of the mass as shown in [Figure 3a]. The mass was separated from the surrounding connective tissues taking care not to



**Figure 4:** HPE Picture: Side arrow – Sebaceous gland, Down arrow – Squamous epithelium.



**Figure 5:** Post-operative day 14.

rupture it. The mass was excised *in toto* as shown in [Figure 3b] and specimen was sent for histopathological examination.

Intra-operative lacrimal passage syringing was done and it was found to be freely patent.

Histopathology report revealed stratified squamous epithelial lining with sebaceous glands and it was diagnosed to be a dermoid cyst as shown in [Figure 4].

In the immediate post-operative follow-up and on follow-up till 6-month post-operative period, there is no evidence of recurrence with good cosmesis as shown in [Figure 5]. There is also no complain of watering of eye and the nasolacrimal duct is patent on syringing.

## DISCUSSION

The authors report a case of superficial orbital dermoid cyst present close to the lacrimal sac. Watering which was associated in this case is thought to be because of the compression of the lacrimal drainage system by the dermoid. There are very few reports of dermoid cysts associated with involvement of lacrimal passages; to name a few are: Hurwitz *et al.*,<sup>[5]</sup> Kim *et al.*,<sup>[6]</sup> Leuder,<sup>[7]</sup> and Tengku-Fatishah *et al.*<sup>[3]</sup>

Complete excision of the dermoid cyst is very important because if a dermoid cyst is partially removed, recurrence may occur. It could also result in complications like inflammation and abscess formation, which may mimic acute dacryocystitis or lacrimal abscess. Residual dermoid tissue may get inflamed leading to orbitocutaneous fistula.<sup>[8,9]</sup>

## CONCLUSION

Dermoid cyst should also be kept as one of the differential diagnosis in those cases presenting with swelling in the inferonasal part of orbit or in the lower eyelid. Presenting symptoms may mimic a case of mucocele of lacrimal sac in those cases presenting with swelling in the medial canthal area with watering of eye as it was seen in this case. Dermoid cysts have a good prognosis if it is excised completely.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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