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Case Report

From cyst to clarity: Surgical management of an eyelid epidermoid cyst

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Abstract

Epidermoid cysts are slow-growing, benign lesions most commonly found on the face, neck, and upper trunk. They occasionally affect eyelids, where they can pose unique cosmetic and functional issues due to the delicate and conspicuous nature of the eyelid region. We present a case of 45-year-old male who has had a right upper eyelid epidermoid cyst for ten years, seeking treatment for cosmetic reasons. Because of the cyst's size and position, the weight of the lesion induced minimal mechanical ptosis, resulting in slight upper eyelid drooping and mild visual impairment. Diagnostic imaging confirmed the cyst, and surgical excision was performed under 2% lidocaine with adrenaline with a smooth recovery. At the 6-month follow-up, there was no recurrence, and the mechanical ptosis had resolved, with no new symptoms such as diplopia observed. This case emphasises the importance of early diagnosis, thorough excision, and proper follow-up to prevent complications, recurrence, and the development of related symptoms.

Keywords: Epidermoid cyst, Eyelid, Surgical excision, Benign, Ophthalmology.

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1. Introduction

Epidermoid cysts, composed of keratin, commonly occur on the face, neck, and trunk. Their occurrence in the eyelid is rare but can present both cosmetic and functional concerns. Mechanical ptosis, a drooping of the eyelid caused by the weight of the cyst, may occur when the lesion is large or located in a position that interferes with the normal eyelid function. Additionally, pressure from the cyst may sometimes cause diplopia due to the restriction of ocular motility, though this is less common. Surgical excision is the preferred treatment to prevent complications such as infection, recurrence, and functional disturbances. This case highlights the clinical, diagnostic, and surgical approach to managing an upper eyelid epidermoid cyst, while also addressing potential complications such as mechanical ptosis and diplopia, which may occur if the cyst compresses the extraocular muscles or optic nerve, disrupting eye alignment and motility.[1,2,7]

2. Case Presentation

A 45-year-old male presented to Ophthalmology Department, G. K. General Hospital, GAIMS, Bhuj, Kuchchh, with complain of painless swelling on the right upper eyelid for 10 years, seeking treatment for cosmetic reasons. The patient also reported slight drooping of the eyelid, with mild difficulty in keeping the eye open, particularly in the morning. There was no history of trauma, infection, or visual disturbances such as diplopia. The patient had no significant medical history or previous similar lesions.

On examination, a well-circumscribed, firm, non-tender mass of approximately 2 cm in diameter was observed on the central right upper eyelid. The mass was soft in consistency, non-reducible, non-compressible, with a negative fluctuation test and negative transillumination test. It was free from the skin, subcutaneous tissue, deep fascia, and bone. The overlying skin appeared normal, with no erythema or ulceration (**Figure 1**). The best corrected visual acuity was 6/6 in both the eyes, and the mass did not interfere with eyelid movement. However, mechanical ptosis was present with

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slight drooping of the eyelid, and intraocular pressure was normal (12mmHg in right eye and 10mmHg in left eye). The size and characteristics of the mass are clinically relevant for differential diagnosis, as they help distinguish it from other conditions such as chalazion (a chronic lipo-granulomatous inflammation of meibomian gland)6 or dermoid cysts, which may present differently in terms of consistency, tenderness, or associated symptoms. No diplopia was noted on cover testing, and the patient had normal ocular motility.

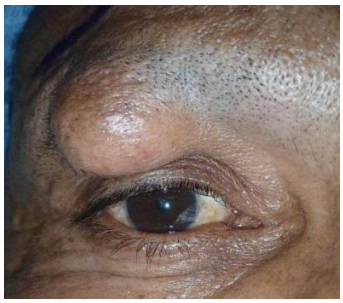

Figure 1: Right eye upper eyelid mass with normal overlying skin

A clinical diagnosis of an epidermoid cyst was made based on the lesion's characteristics. Ultrasound imaging revealed a well-defined, hypoechoic cystic lesion consistent with an epidermoid cyst, with no signs of infection or rupture (**Figure 2**). Ultrasound was chosen over other imaging modalities for its ability to provide clear visualization of the cystic nature of the lesion, its accessibility, cost-effectiveness, and lack of radiation exposure, making it an ideal choice for a superficial lesion like an eyelid cyst. Differential diagnosis considered included chalazion, sebaceous cysts, lipomas, dermoid cysts, and, to a lesser degree, orbital masses that could cause diplopia or restriction of eye movement.[2,4,6]

Figure 2: Well-defined, hypoechoic cystic lesion with no signs of infection or rupture s/o epidermoid cyst

After discussing treatment options, including conservative management and the potential for cyst aspiration, the patient opted for surgical excision under local anaesthesia due to its definitive nature and low risk of recurrence. The procedure was performed in a sterile operating room environment. A small 5mm incision was made along the natural skin lines of the eyelid, and the cyst was carefully excised, ensuring complete removal of the cyst wall and contents. The wound was closed with 6-0 nylon sutures, and the patient tolerated the procedure well (**Figure 3**).

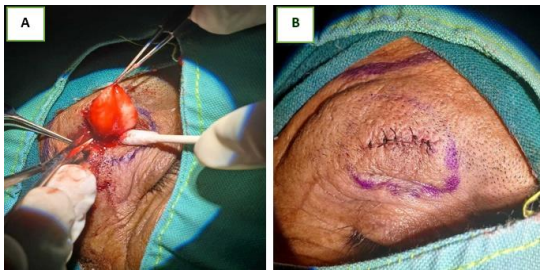

Figure 3*:* A: Intraoperative: Surgical excision of cyst in toto, **B:** Postoperative wound closure with 6-0 nylon sutures

Postoperative care included the application of topical antibiotic ointment (Ciprofloxacin). At the 1-week follow-up, the surgical site had healed well, and sutures were removed without complications. By the 6-month follow-up, there was no recurrence, and the patient was satisfied with the cosmetic outcome. The mechanical ptosis had resolved, and the patient reported no further difficulty with eyelid drooping or visual disturbances. No new symptoms of diplopia were noted, and the histopathological examination also confirmed the diagnosis of a benign epidermoid cyst (**Figure 4**). This confirmation is significant as it ensures the exclusion of other potential malignancies or atypical lesions, guiding appropriate postoperative management and reassuring the patient of the benign nature of the condition.[3,6]

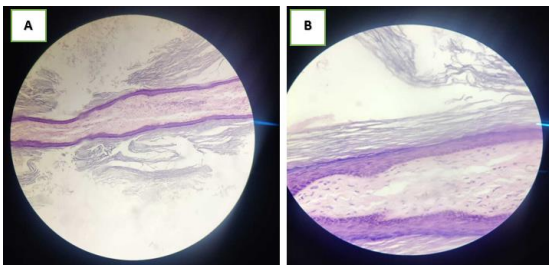

Figure 4: A, B: Histopathology showing epithelial lining without intercellular bridges, lumen containing homogenous, eosinophilic material and less keratin s/o epidermoid cyst

Discussion

Epidermoid cysts in the eyelid are uncommon but can cause cosmetic or functional concerns. As demonstrated in this case, the mass caused mechanical ptosis, because of its cyst's size and weight. Diplopia, though less common, can occur in some cases it interferes with ocular motility or places pressure on the extraocular muscles. Surgical excision is the treatment of choice to prevent complications such as infection, recurrence, or functional disturbances like ptosis and diplopia.[1,2,9] Histopathologically, epidermoid cysts are characterized by an epithelial lining that does not possess

intercellular bridges. The epithelial cells lose their nuclei and slough off into the lumen of the cyst. The lumen of the cyst usually contains predominantly homogenous, eosinophilic material and less keratin.[8] This case underscores the importance of early diagnosis, complete excision, and appropriate postoperative care. Ultrasound imaging is valuable in confirming the cystic nature of the lesion and distinguishing it from other masses and ensuring accurate diagnosis and appropriate management.[4,6]

3. Conclusion

Eyelid epidermoid cysts, though rare, can be effectively managed with surgical excision. Early intervention ensures favourable cosmetic outcomes, resolution of mechanical ptosis, and minimizes the risk of recurrence and related functional disturbances such as diplopia.[3,6] Patient education on the nature of the cyst, potential symptoms, and postoperative care is crucial for achieving high patient satisfaction. The patient was pleased with the outcome, particularly the cosmetic results, and reported no recurrence or complications at the 6-month follow-up. The resolution of mechanical ptosis improved his daily activities, and he expressed satisfaction with the restored appearance and function of the eyelid.

4. Informed Consent

Informed consent was obtained from the patient for the publication of this case report, including any accompanying images and details.

5. Conflicts of Interest

The authors declare no conflicts of interest.

6. Sources of Funding

No funding was received for this study.

References

1. Bernardini FP, Devoto MH, Zambelli A, Croxatto JO. Tarsal epidermoid cyst: A clinicopathologic case report. *Ophthalmic Plast Reconstr Surg*. 2008;24(4):323–4.
2. Bubanale SC, Harakuni U, Patil H, Arora V. A rare site of epidermoid cyst of the eyelid. *J Sci Innov Res*. 2013;40(1):47–8.
3. Nix JS. Eyelid cysts. PathologyOutlines.com. Available from: https://www.pathologyoutlines.com/topic/eyeeyelidcysts.html
4. Blazevic M, Rohr BR. Epidermoid / epidermal inclusion cyst. PathologyOutlines.com. https://www.pathologyoutlines.com/topic/skintumornonmelanocyticker atinouscystepidermal.html
5. Bowling B. Eyelid lesions and their differential diagnosis. In: Kanski's Clinical Ophthalmology: A Systematic Approach. 9th ed. Elsevier; 2020:135–8.
6. Behera M, Panja M. Epidermal cyst of upper eyelid: A case report with literature review. *J Clin Exp Ophthalmol*. 2016;7(5):1–2.
7. Vagefi MR, Lin CC, McCann JD, Anderson RL. Epidermoid cyst of the upper eyelid tarsal plate. *Ophthalmic Plast Reconstr Surg*. 2008;24(4):323–4.
8. Suimon Y, Kase S, Ishijima K, Kanno-Okada H, Ishida S. Clinicopathological features of cystic lesions in the eyelid. *Biomed Rep*. 2019;10(2):92–6.
9. Lee JH, Kim YD, Lee JH, Kim HK. Ultrasound features of epidermoid cysts in the eyelid: differentiation from other superficial soft tissue lesions. *Korean J Radiol*. 2019;20(10):1650–7.

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