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Case Report

An unusual eyelid mass: Tarsal dermoid cyst

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Abstract

We report the case of a 15-month-old boy who presented with a mass lesion of the right upper eyelid that had been present since birth and had slowly enlarged over the last 3 months. The lesion had minimal surrounding erythema simulating the appearance of a chalazion. Intraoperatively the lesion was noted to be firmly adherent to the underlying tarsus. The lesion was excised completely through an eyelid crease approach leaving the tarsus intact. The histopathology was consistent with dermoid cyst. To our knowledge, this is the third case of a tarsal dermoid cyst reported in the literature. Dermoid cyst should be included in the differential diagnosis of eyelid mass lesions, and particulary differentiated from a chalazion to avoid mismanagement that may lead to scarring, recurrence and inflammation. The excision of these lesions sparing the underlying tarsus can be possible.

Keywords: Tarsal dermoid, Dermoid cyst, Tarsus

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Introduction

Dermoid cysts are congenital lesions that arise from nondisjunction of surface ectoderm from deeper neuroectodermal structures.[1] Seven percent of all dermoid cysts occur in the head and neck, and 70% of them occur in the periorbital region, mostly at the upper outer quadrants, at the anterolateral aspect of the frontozygomatic suture.[2,3] Dermoid cyst associated with tarsus was first described in 2009 by Koreen et al.[4] and they reported the only two cases in the literature. In this paper, we report a case of a tarsal dermoid cyst and discuss its importance and management.

Case report

A 15-month-old boy presented with a history of a mass in the right upper eyelid that had been present since birth. Noticeable enlargement of the lesion was noted over the last 3 months before the presentation. On examination, there was a 1 × 1 cm firm, nontender mass lesion at the temporal portion of the right upper eyelid with minimal surrounding erythema (Fig. 1A–C). The remainder of the ophthalmologic examination was within normal limits. The lesion was excised completely through an eyelid crease incision. Intraoperatively the lesion was noted to be firmly adherent to the underlying tarsus (Fig. 1D). The lesion was taken out en bloc with its capsule, leaving the underlying tarsus intact and sent for histopathological analysis. The edge of the levator aponeurosis was noted to be disinserted temporally at the area of excision and was reattached to the tarsus. The histopathology revealed a cystic lesion, lined by keratinizing squamous epithelium with pilosebaceous structures and hair follicles detected beneath the epithelium (Fig. 2A and B). The lesion was diagnosed as a dermoid cyst. The patient was noted to

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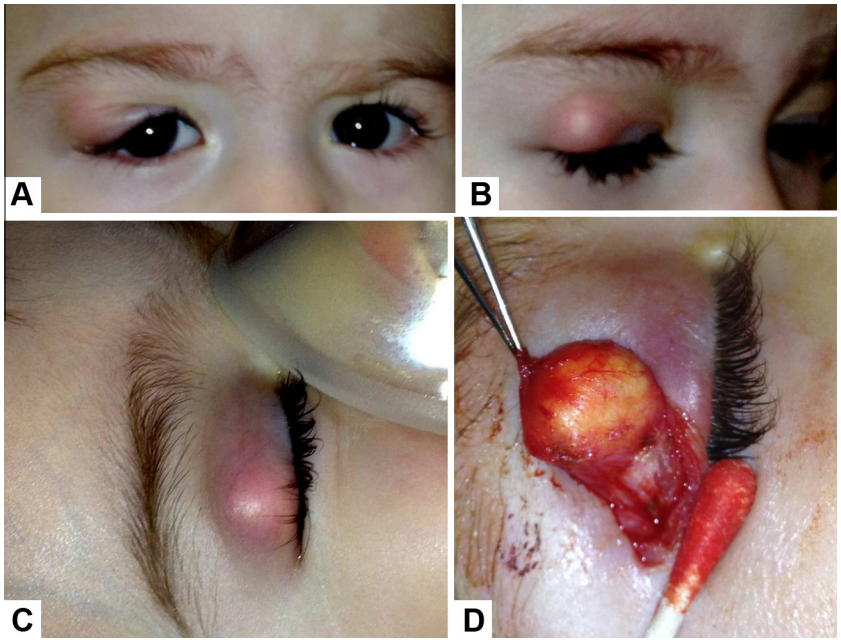

Figure 1. (A and B) External photographs of the patient at presentation showing a mass lesion at the temporal portion of the right upper eyelid. (C) External photograph of the patient taken at the time of surgery showing the eyelid mass lesion. (D) An intraoperative photograph of the patient, showing a cystic lesion firmly adherent to the underlying tarsus.

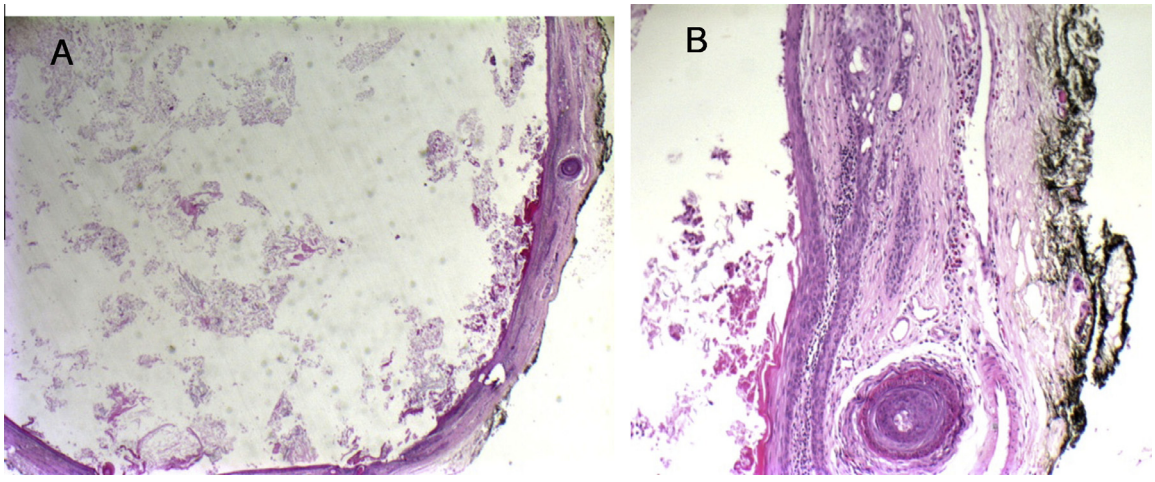

Figure 2. (A) A cystic lesion, lined by keratinizing squamous epithelium was seen (Hematoxylin-eosin, ×20). (B) Pilosebaceous structures and a hair follicle are detected beneath the epithelium (Hematoxylin-eosin, ×100).

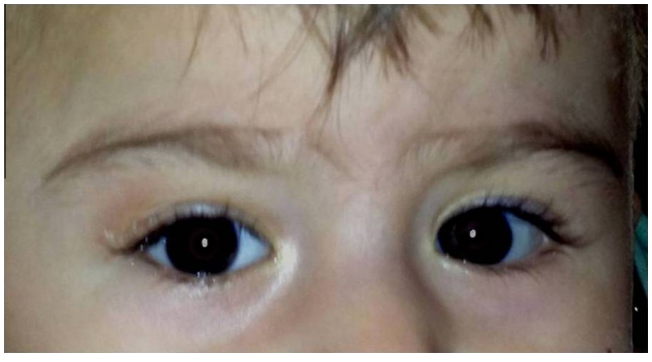

Figure 3. External photograph of the patient 1 week postoperatively.

have an excellent outcome with no ptosis or eyelid contour abnormalities postoperatively (Fig. 3).

Discussion

Dermoid cysts occur at the sites of the suture lines during embryological development and may slowly enlarge due to the accumulation of debris within the lumen.[5] Based on location periorbital dermoid cysts can be categorized as either anterior or deep lesions. The most common location for the anterior dermoid cyst is the superolateral aspect of the orbit at the frontozygomatic suture. Medial lesions occur less frequently and often arise from tissue sequestered in the

frontoethmoidal or frontolacrimal sutures.[6] Deep lesions can develop at the zygomaticofrontal or sphenoethmoidal suture.[2] Dermoid cysts associated with tarsus is very rare with only two similar cases reported in the literature.

A dermoid cyst should be suspected when there is a case of a congenital lesion, slowly expanding with the displacement of adjacent structures. The optimal treatment for dermoid cysts is a complete excision with an intact capsule.[3] Although the lesion was strongly adherent to tarsus we were able to excise the lesion en bloc leaving the tarsus intact unlike the case reported by Koreen et al.[4] which appeared to be excised full-thickness along with the underlying tarsus. We reattached the disinserted edge of the levator aponeurosis to the tarsus temporally to prevent ptosis.

This case shows the importance of including dermoid cyst in the differential diagnosis of childhood eyelid mass lesions. Most importantly it should be differentiated from a chalazion which is the most common pathology in this location. The management of these two entities is entirely different. Incision and curettage of a dermoid cyst would lead to unsatisfactory results including inflammation, scarring, recurrence and fistullization. The critical point in differentiation from a chalazion is the presence of the lesion since birth. In our case, there was some erythema associated with the lesion which is an unusual finding in an intact dermoid cyst, further making the differentiation from a chalazion more difficult. This case shows the importance of a detailed history, as the dermoid cyst could have been easily diagnosed as a chalazion depending on the examination findings only.

Although very rare, dermoid cysts should be considered in the differential diagnosis of eyelid mass lesions especially in patients with congenital lesions even in the presence of minimal inflammatory signs to avoid mismanagement. Their complete excision can be possible leaving the tarsus intact.

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None of the authors have any financial support or proprietary interest related to this study.

Conflict of interest

The authors declared that there is no conflict of interest.

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