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Case Report

Unusual presentation of epidermal inclusion CYST: A case report

Aparajita Chaudhary[1], Vijay Kumar Maurya[1,*], Kriti Bhatt[2]

[1]*Dept. of Ophthalmology, RIO and Moti Lal Nehru Medical College, Prayagraj, Uttar Pradesh, India*
[2]*RIO and Moti Lal Nehru Medical College, Prayagraj, Uttar Pradesh, India*

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ABSTRACT

We report a case of a 8 year old girl who presented with painless progressive mass of the right upper lid that had been present after having a trauma at the age of 1 year with cricket ball and had slowly enlarged over period of 7 years. The mass had no signs of inflammation, tissue breach or central punctum. The mass was of cystic consistency with sharp well defined margin and freely movable not adherent to underlying structure measuring about 1-1.5cm in size. The mass was initially at centre of upper lid and had gradually moved to superotemporal region of upper lid that was completely excised and found to be a Epidermal Inclusion Cyst on histopathological examination. The presence of Epidermal Inclusion cyst at a site with no breach of tissue at the time of trauma and no punctum over the mass at the time of presentation is unusual, hence the purpose of our case report. Therefore it is important to consider Epidermal Inclusion Cyst in the differential diagnosis of eyelid lesions in children with atypical presentation.

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1. Introduction

Epidermal inclusion cysts are the most common cutaneous cysts. Numerous synonyms for epidermal inclusion cysts exist, including epidermoid cyst, epidermal cyst, infundibular cyst, inclusion cyst, and keratin cyst. These cysts can occur anywhere on the body, typically present as nodules directly underneath the patient's skin, and often have a visible central punctum. They are usually freely moveable. The size of these cysts can range from a few millimeters to several centimeters in diameter. Lesions may remain stable or progressively enlarge over time. There are no reliable predictive factors to tell if an epidermal inclusion cyst will enlarge, become inflamed, or remain quiescent. Infected and/or fluctuant cysts tend to be larger, erythematous, and more noticeable to the patient. Due to the inflammatory response, the cyst will often become painful to the patient and may present as a fluctuant filled nodule below the patient's skin. The center of epidermoid cysts almost always contains keratin and not sebum.[1]

2. Case Presentation

A 8 year old girl presented with painless progressive mass over the right temporal area of upper lid , noticed for 7 years that had been present after having a trauma with cricket ball at first year of life and had slowly enlarged over period of 7 years. On examination the mass had no signs of inflammation, tissue breach or central punctum. The mass was of cystic consistency, sharp well defined margin, freely movable non adherent to underlying structure and skin, measuring about 1-1.5cm in size. The mass was initially noticed at centre of upper lid and over a period of time had gradually moved to superotemporal lesion of upper lid (Figure 1). No obvious visual problems were noticed. All ophthalmic and neurological examinations were

* *Corresponding author*.
E-mail address: vijay150597@gmail.com (V. K. Maurya).

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unremarkable. Computed Tomogaphy (CT) showed a small oval shape epibulbar mass of about 1-1.5cm in size of fatty density at the right lateral upper eyelid adjacent to the eyeball with relatively maintained fat plane and no erosion of underlying bone(Figure 2).

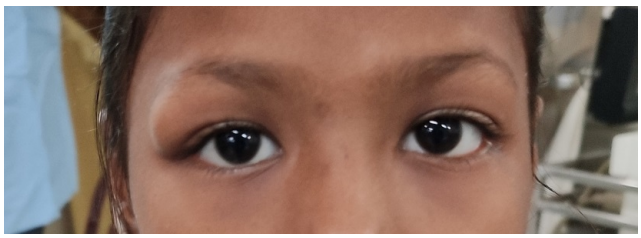

Fig. 1: Preop picture

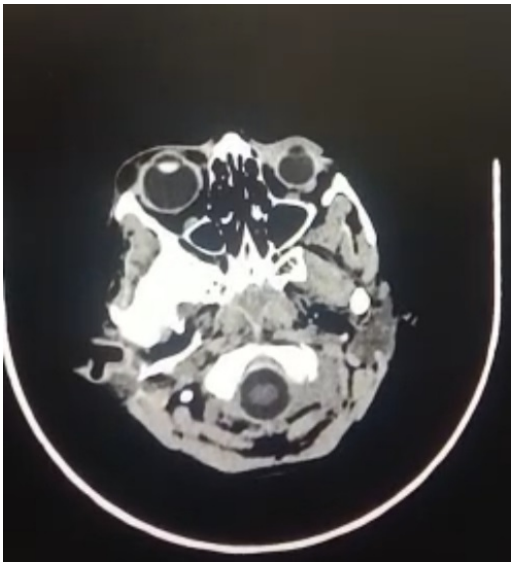

Fig. 2: CT Axial section

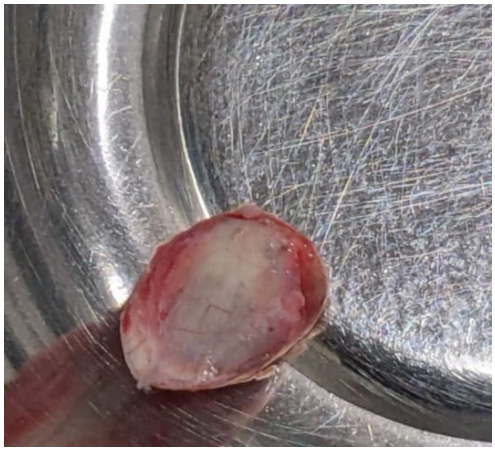

Fig. 3: Excised mass

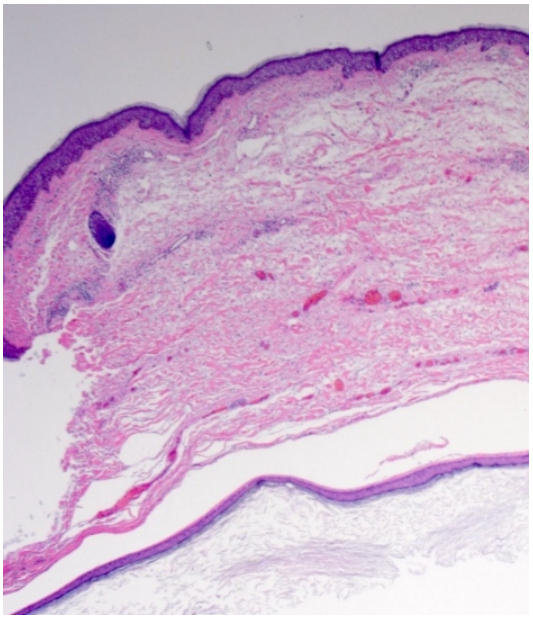

Fig. 4: Histopathological slide

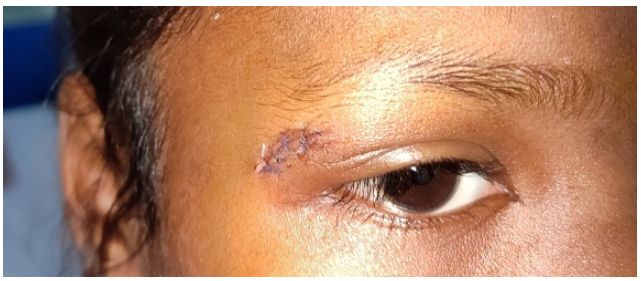

Fig. 5: Post op day1

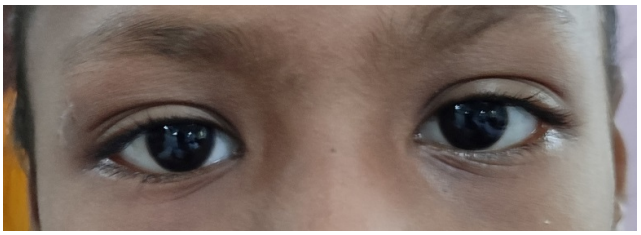

Fig. 6: 2 Post op day24

The excision of the lesion was planned under local anesthesia after taking consent, a local anesthetic, containing lidocaine with epinephrine, was used. The anesthetic was injected around the cyst. A small curvilinear incision of about 8-9mm was made with a #11 blade on the skin overlying the cyst. The mass was then expressed by separating it from surrounding tissue and exerting lateral pressure on either side of the cyst. With this technique, the cyst wall is often freed from the adjacent tissues and can be completely extracted through the small incision (Figure 3).

The whole excised mass was sent for histopathological examination. The histopathological findings showed a cyst lined by keratinized, stratified squamous epithelium with intact granular layer, numerous keratin flakes were seen and impression was Epidermal Inclusion Cyst(Figure 4).

The patient had smooth post-operative recovery (Figures 5 and 6). During the 1.5 month follow up period the patient remained well, free of complications. The patient received the treatment that is currently routine and hence no ethical approval was required. The patient provided informed consent for the publication of her clinical data and accompanying images.

3. Discussion

Epidermal Inclusion Cyst is a kind of benign tumor composed of epithelium, intact wall and obvious granular layer. Under the microscope, the cystic structure consists of keratin epithelial cells, scales, and cholesterol crystals. The etiology of epidermal Inclusion Cysts has not yet been explored in depth,[2] some scholars think that an epidermoid cyst is formed when embryonic neural tube is closed with the ectoderm, gradually growing into tumor, namely the skin epidermal layer residues in the site occurring as a cyst. With the renewing and shedding of keratinized cells, the contents of cyst gradually increased and eventually lead to the tumor formation. Some experts also believe that epidermal cells are implanted in tissues or organs during trauma and grow into epidermal inclusion cyst. Epidermoid cysts can occur at any age, more frequently in the head.[3] The size of these cysts can range from a few millimeters to several centimeters in diameter. Lesions may remain stable or progressively enlarge over time. There are no reliable predictive factors to tell if an epidermal inclusion cyst will enlarge, become inflamed, or remain quiescent. Infected and/or fluctuant cysts tend to be larger, erythematous, and more noticeable to the patient.[1,4]

Epidermal inclusion cyst present in superotemporal region of eyelid would remain asymptomatic most of the time until the complications develop.

Incomplete removal of the cyst can cause recurrences, infection, and even meningitis if intracranial extension is present. Although superotemporal inclusion cyst encountered will require simple excision emplyoing more direct approache through lid margins and it also provide the good cosmetic appearance post operatively. A good clinical examination would avoid unnecessary need of investigations like CT Scan. Although the CT will show a cystic space with fatty density. Histopathology is the main stay of diagnosis. There are many treatment available, including conservative observation, simple cystectomy, and radical resection. In this case, the patient had no any complaint so only cosmetic excision was done.

Although epidermoid cyst is a benign disease, there is a 2% probability of progression to squamous cell carcinoma and 3% chance of recurrence after surgery.[5–10]

4. Conclusion

The presence of Epidermal Inclusion cyst at a site with no breach of tissue at the time of trauma and no punctum over the mass at the time of presentation is very unusual.

Therefore it is important to consider Epidermal Inclusion Cyst in the differential diagnosis of eyelid masses in children in atypical presentation.

5. Conflict of Interest

None.

6. Financial interest

None.

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Author biography

Aparajita Chaudhary, Professor and Head

Vijay Kumar Maurya, Junior Resident

Kriti Bhatt, Senior Resident

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