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Original Research Paper

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DERMOID CYST OF THE ORBIT: A CASE REPORT

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ABSTRACT A dermoid cyst is an example of developmental choristoma lined with epithelium and filled with keratinized material arising from ectodermal rests pinched off at suture lines. These are tumors that originate from aberrant primordial tissue which results in normal-appearing tissue in an abnormal location. These are the most common orbital tumors in childhood. They are categorized into superficial and deep. Superficial orbital dermoid tumors usually occur in the area of the lateral brow adjacent to the frontozygomatic suture. Approximately, 50% of these tumors that involve the head are found in or adjacent to the orbit. This article presents a similar case of the orbital dermoid cyst with its management and also a review of other varieties of dermoid cysts of the orbit

KEYWORDS : Dermoid, Congenital, Cyst, Orbit

INTRODUCTION

A dermoid cyst is the commonly used clinical term for benign cystic teratoma, derived from the sequestration of surface ectoderm into underlying mesenchyme along embryonic lines of closure. Both dermoid and epidermoids are lined by keratinized stratified squamous epithelium and have a fibrous wall. A dermoid has dermal appendages, whereas an epidermoid has no dermal appendages.[1]

Orbital dermoid cysts consist of three categories. Orbital dermoid cysts are not attached to the skin, which helps differentiate them from sebaceous cysts. The cyst usually is tethered to the periosteum of the bone near suture lines, including the sinuses or intracranial cavity.[2]

Approximately, 10% of head and neck dermoid are orbital, but they may occur virtually anywhere within or adjacent to the orbit. Twice as many of these lesions develop in the superotemporal orbital quadrant compared with the superonasal quadrant. They compose 3%–9% of all orbital masses with an average of 4.7%.[3]

Shields and Shields had classified orbital dermoid cysts according to their relation to suture lines into juxta sutural, sutural, and soft tissue cysts. A juxta sutural cyst is not firmly attached to a suture while a sutural dermoid is firmly attached to and is usually associated with bone erosion.[4]

Differential diagnosis includes mucocele, encephalocele, echinococcus cyst, and sebaceous cyst.

Histologic features include a cyst-like structure with a thick fibrous wall, lined with squamous epithelium that may contain hair follicles, glands, and cellular debris. Histologic examination is necessary to differentiate the dermoid cyst with its squamous epithelium lining containing dermal appendages from the epidermoid cyst, which has no dermal appendages. Both lesions are filled with keratin.[5]

Case Report

A 16-year-old boy was reported to our department with a complaint of cosmetic deformity because of swelling on the medial aspect of the left upper eyelid in the sub-brow region. This swelling was present since childhood and was gradually increasing in the size.

The swelling was pea-sized at birth which slowly increased in size with a faster growth spurt in the last 2 years [Fig 1]. It was not associated with any discharge, pain, or diminution of vision. There was no history of an increase in size during straining, bending, or lifting.

On examination, the mass was non-tender, firm mass approximately 2 cm x 3 cm in size.[Fig 2] The posterior margin of the mass could be reached. It was not mobile. Bony orbital margins were normal.

There were no pulsations or any regional lymphadenopathy. There was no globe displacement. The overlying skin was normal in color and texture and was not attached to the underlying lump. His NCCT did not reveal any bony erosion but fossa formation near the orbit [Figure 4].

A lateral brow incision was taken [Figure 5], and the entire tumor mass was excised without rupturing its contents [Figure 6]. The incision was closed in layers that healed well without any complications [Figure 7].

Figure 1 Shows non-tender firm mass approximately 2 cm x 3 cm near medical canthus region

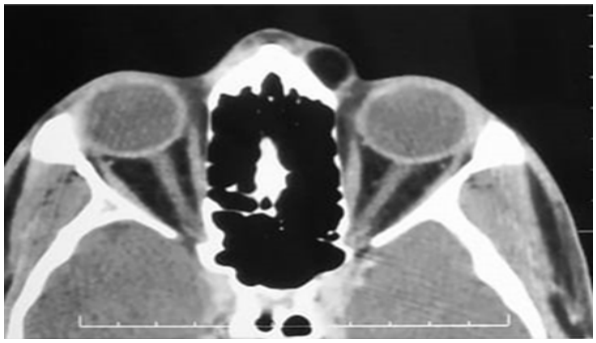

Figure 2 shows Hyperdense cyst wall with hypodense cyst cavity with fossa formation

Figure 3 Sub-brow incision taken for excision of the lesion

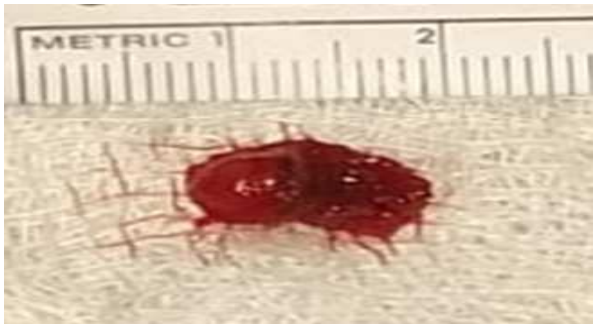

Figure 4 Completely enucleated lesion

Figure 5 Postoperative pictures showing good healing

DISCUSSION

The major categories in the classification include cysts of surface epithelium, teratomatous cysts, neural cysts, secondary cysts, inflammatory cysts, and non-cystic lesions with the cystic component. Cysts of the surface epithelium are further divided into the simple epithelial cyst (epidermal, conjunctival, respiratory, and apocrine gland) and dermoid cyst (epidermal and conjunctival). Epidermal dermoid cyst (dermoid) is by far the most common orbital cystic lesion in children, accounting for over 40% of all orbital lesions of childhood and for 89% of all orbital cystic lesions of childhood that come to biopsy or surgical removal. Neural cysts include those associated with ocular maldevelopment and those associated with brain and meningeal tissue (cephalocele and optic nerve meningocele). The most important secondary cyst is mucocele which can occur in children with cystic fibrosis. Inflammatory cysts are generally due to parasitic infestations and are more common in tropical areas of the world. Noncystic lesions that can have a cystic component include adenoid cystic carcinoma, rhabdomyosarcoma, lymphangioma, and others.

The various approaches mentioned in literature for managing the orbital cysts depending on their location are as follows: the superficial medial orbital dermoids were excised through medial skin incision or frontoethmoidal (Lynch) incision. The superficial lateral dermoids were removed by sub-brow incisions. Deep orbital dermoids were removed with a lateral orbitotomy.[6]

Orbital dermoids or epidermoids should be excised because they enlarge, and the contents leak into adjacent tissues. The material within these cysts is highly irritant and provokes a severe inflammatory reaction, often followed by fibrosis. Every effort should be made to remove the tumor in one piece since the contents of the cystic lesion are irritating and result in lipogranulomatous inflammation of the adjacent orbital tissue.[7]

Deep orbital cysts with intracranial extension will require neurosurgical assistance for removal. In a child patient, if the cyst is very extensive, requiring bone removal into dissection, then surgery should be delayed until bone growth has ceased.

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