



International Journal of Medical Research & Health Sciences

www.ijmrhs.com

Volume 4 Issue 2

Codon: IJMRHS

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ISSN: 2319-5886

Received: 7th Jan 2015Revised: 20th Feb 2015Accepted: 4th Mar 2015

Case report

SURGICAL MANAGEMENT OF EPIBULBAR DERMOID CYST: A CASE REPORT

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ABSTRACT

Dermoids are congenital lesions representing normal tissue in abnormal location. Orbital dermoid cysts are divided into superficial and deep dermoids. Depending on type and location, superficial ocular dermoid cysts are divided into limbal, dermoid cyst and epibulbar dermoid cyst or dermolipoma. The most common location for the epibulbar dermoid cyst is inferotemporal region of eye. They are usually asymptomatic or may present with inflammatory response due to leakage of cyst contents or may cause local irritation due to protruding hair and do cause cosmetic blemish to a school going child. For local irritation and cosmetic reasons, complete surgical excision with intact capsule of epibulbar dermoid cyst is mandatory to prevent acute inflammatory response and its recurrence. In this article we are presenting the clinical features and surgical management of an inferotemporal epibulbar dermoid in a male patient.

Key words: Epibulbar dermoid, Dermoid cyst.

INTRODUCTION

Dermoid cysts are choristomas, and are often evident soon after birth ^[1]. They are lined with epithelium and filled with keratinized material and usually contain hair and other skin structures^[2, 3]. Superficial epibulbar dermoid cyst is most commonly located in inferotemporal region of eye. Epibulbar dermoid cysts are most commonly unilateral. They can be asymptomatic or may present mass in eye or fullness of eyelid depending upon the size of cyst. Leakage of its contents may lead to inflammatory response and fibrosis around cyst. Epibulbar dermoid cyst needs surgical excision for cosmetic reasons and when it is symptomatic due to local irritation ^[4]. Here we are describing the clinical presentation and management of an epibulbar dermoid located in the inferotemporal region in 14 years old male.

CASE REPORT

A fourteen years old male came to Pravara Rural

Hospital, Loni with painless mass in the inner side of the right lower eyelid, situated laterally, which was present since childhood. Patient had complaints of local irritation, watering. Patient himself noticed growing hair from lower fornix of right eye. Apart from cosmetic blemish, there were no other symptoms like pain or diplopia.

General and systemic examination of the patient was normal. Family history was not significant. Slit lamp examination and direct ophthalmoscopy showed normal anterior and posterior segments in both eyes. Visual acuity in both eyes was 6/6 (Snellens chart). Extraocular movements were full and free in all directions of gaze. Local examination revealed a swelling measuring 1.5×1×0.5cm in inferotemporal region in right eye (fig 1). It was soft, non-tender, freely mobile, and non-adherent to the sclera or conjunctiva and with single protruding hair. There

was no corneal involvement. Clinical diagnosis was an epibulbar dermoid cyst.

Patient had normal haemogram and normal chest X-ray. The X-ray orbit and CT ruled out deeper extension. With proper consent and anaesthetic fitness complete excision of intact epibulbar dermoid cyst was carried out under general anaesthesia (fig 2, 3). The intact cyst was sent for histopathological examination which showed lining of stratified squamous epithelium with fibrous stroma containing few hair follicles and sebaceous glands which confirmed the diagnosis of epibulbar dermoid cyst (fig 5). Post-operatively antibiotic and steroid drops were instilled in tapering dose (fig 4). One year follow up examination showed no recurrence and any inflammatory response too.

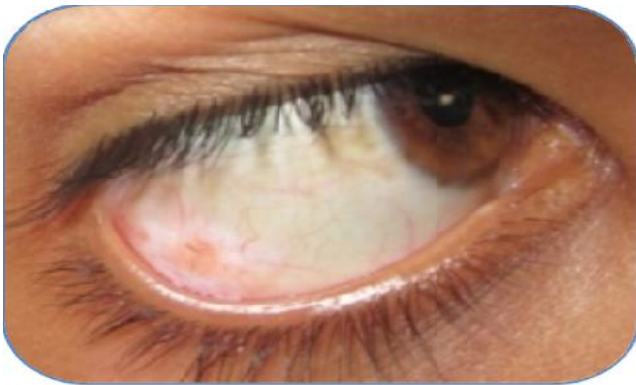


Fig 1: Mass in Inferotemporal quadrant



Fig 2: Raised Mass during dissection



Fig 3: Removal of epibulbar mass in toto

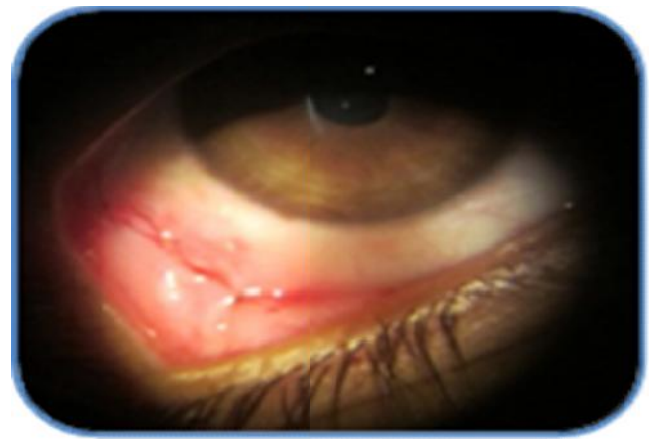


Fig 4: 1st post-operative day with conjunctival sutures in situ.

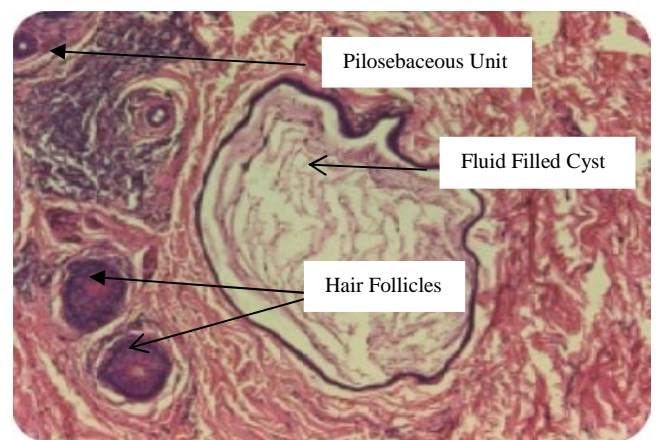


Fig 5: Histopathology showing contents of dermoid cyst

DISCUSSION

A dermoid is a choristoma, representing overgrowth of normal, non-cancerous tissue in an abnormal location. It consists of ectodermal and mesodermal elements combined in different proportions. It is made up of cutaneous and subcutaneous tissue and contains hair and other skin structures and may occur anywhere in the body [5, 6].

There are two main dermoid types that occur on or around the eyes. First, a deep Orbital Dermoids typically found in association with the bony socket. Second, superficial an Epibulbar Dermoids found on the surface of the eye which gradually increases in size through epithelial desquamation and glandular secretions.

It has two typical locations. One is at the junction of the cornea and sclera called Limbal Dermoid which causes astigmatism. The second location of epibulbar dermoid is on the surface of the eye where the lids meet in the temporal corner (towards the ear) which

is often called a Dermolipoma or Lipodermoid. These are more commonly found in the superotemporal quadrant extending to orbit or the lacrimal gland can lead to dry eye due to disturbance of lacrimal gland involvement. They are typically unilateral but can be bilateral. Rarely, they may affect the cornea or the bulbar conjunctiva only as occurred in our case. Epibulbar dermoid may not present at birth but can develop soon after birth. Most patients present before age 16 years. The most frequent site of Epibulbar dermoids believed to be infero-temporal segment (85%). They can range from several millimetres to a centimetre or more in size.

Epibulbar dermoid has no symptoms unless hair or other dermal structures cause local irritation. The lesion does cause a cosmetic defect. Patients may present with decreased vision, foreign body sensation, cosmetic disfigurement, or an enlarging ocular mass. Epibulbar dermoid is typically fleshy, yellow and soft. It gets moulded as per the curve of the eye and has a dome shape. Hair follicles or cilia may be visible on its surface. Overlying conjunctiva may be thickened and may have fine superficial vascularisation and or keratinisation.

Associated systemic abnormalities include pre-auricular appendages and auricular fistulae more common with limbal dermoids constituting Goldenhar syndrome^[7] also known as oculoauriculo-vertebral spectrum (OAVS) is a developmental anomaly involving structures derived from first and second branchial arches. Limbal Dermoids or dermolipomas are more likely to be associated with Goldenhar's Syndrome if they are multiple or bilateral.

Diagnosis of Epibulbar dermoid though clinical, ultrasound and radiographic imaging may be required to investigate the extent of the tumour however excisional biopsy confirms the diagnosis^[8,9].

Histologically aberrant tissues, including epidermal appendages, connective tissue, skin, fat, sweat gland, lacrimal gland, muscle, teeth, cartilage, bone, vascular structures, and neurologic tissue, including the brain may be seen^[10]. Malignant transformation is extremely rare.

Complications of an epibulbar dermoid cyst include thinning of sclera, astigmatism due to corneal involvement and cosmetic disfigurement. Rupture of cyst or leakage of cyst contents can cause local inflammatory response^[11].

Hence complete excision of intact cyst in toto is necessary to prevent recurrence, granuloma formation, fibrosis and malignant transformation.

In our case since the epibulbar dermoid cyst was localised, non-adherent to underlying sclera or overlying conjunctiva, complete excision with intact wall of the epibulbar dermoid cyst was carried out, which gave good post-operative cosmetic result. Two years postoperative follow up showed no postoperative inflammation or recurrence.

CONCLUSION

Total surgical excision of intact epibulbar dermoid cyst relieves symptoms, gives good cosmetic and surgical results without its recurrence.

ACKNOWLEDGEMENT

We are thankful to HOD (Professor) Dr. Dongre and Professor Dr. Karle for providing the histopathological report and slide.

Conflict of Interest: Nil

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