

Clinical study of histologically proven conjunctival cysts



Shreya Thatte*, Jagriti Jain, Mallika Kinger, Sapan Palod, Jatin Wadhva, Avijit Vishnoi

Abstract

Purpose: This is a clinco-histopathological study of different varieties of conjunctival cysts where modification of surgical technique was done as per requirement for intact removal of cysts to minimise recurrence rate.

Materials and methods: Retrospective study of 40 cases of conjunctival cysts. A thorough ocular examination and basic haematological work up was done for all patients. B-scan USG and MRI was done wherever required to see the posterior extent. All patients underwent surgical excision of cyst followed by histo-pathological examination.

Results: The various types of conjunctival cysts found in our study were primary inclusion cyst 12 (30%), secondary inclusion cyst 6 (15%), pterygium with cysts 15 (37.5%), parasitic cyst 4 (10%), lymphatic cyst 2 (5%), and orbital cyst with rudimentary eye 1 (2.5%). The common symptoms noted were progressive increase in size of cyst (39.45%), cosmetic disfigurement (26.23%), foreign body sensations (27.86%), proptosis (1.6%), ocular motility restrictions (3.2%) and decreased visual acuity (1.6%). The patients were followed till one year after surgical excision for any recurrence and complications and no recurrence was seen.

Conclusion: Careful and intact removal of conjunctival cyst is important to prevent recurrence. Minor modifications in surgical technique according to the size, site and nature of cyst help in intact removal and prevent recurrence.

Keywords: Conjunctival cysts, Surgical excision, Prevent recurrence, Primary inclusion cysts, Secondary inclusion cysts

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Introduction

Conjunctival cysts are thin walled and slowly progressing cysts. They are usually symptomless but can cause cosmetic disfigurement, reduced motility, foreign body sensation, dry eye due to unstable tear film when they increase in size. They can be primary or secondary inclusion cysts. Primary cysts are congenital, which remains hidden in the fornix and gradually increases with age. Secondary cyst can be parasitic cysts, implantation cysts due to trauma and degenerative cysts.^{1–3} Remedy for cysts is complete excision. As the cysts are thin walled, rupture is common during excision. Recurrence is the main postoperative concern. Careful and intact removal of cyst is necessary to prevent recurrence.

Materials and methods

This is a retrospective study which adhered with the tenets of the Declaration of Helsinki, consists of 40 cases of conjunctival cysts attending ophthalmology OPD between March 2007 and April 2013. A thorough work up which included a detailed history, visual acuity and ocular motility testing, slit lamp and fundus examination was performed in all the patients. All patients underwent basic haematological work up, B-scan USG and MRI of cyst was done whenever required to see the posterior extent. A careful surgical excision was done in a non-traumatic method. All excised cyst were subjected to histological examination to confirm the diagnosis.

Single cyst (more than 3 mm size) could be excised with careful dissection without rupture. Majority of the cases were

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Sri Aurobindo Institute of Medical Sciences PG Institute Boransala, Indore Ujjain Road, Indore (MP), India

* Corresponding author. Address: Chaitanya, 17 Yeshwant Colony, Behind Sita Building, Indore (MP) 452003, India. Tel.: +91 9302104864.
e-mail address: shreyathatte@gmail.com (S. Thatte).



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managed by simple dissection under sub-conjunctival anaesthesia. Only one case with hydatid cyst which required lateral orbitotomy was operated under general anaesthesia.

Surgical method

During excision of cyst conjunctiva along with tenon's was held with non-traumatic forceps gently above the cyst, a small incision was given and the blunt tip of scissors introduced between cyst and tenon's to separate the cyst from the surrounding tissue. Conjunctiva above the cyst was left as such, which helped to hold the cyst firmly during blunt dissection. Care was taken to keep the tip of the corneal scissors away from the cyst. After separating the cyst from all sides, its base was dissected carefully, as the base of the cyst ruptures most commonly during the dissection. Conjunctiva above the cyst was pulled in the opposite direction of the dissection area, so that fibrous attachments at the base of the cyst were stretched and became easily visible which helped in intact cyst removal.

In one patient of the large hydatid cyst lateral orbitotomy was required for complete excision. Patients with parasitic cysts were treated with anti-helminthic therapy following the excision.

Cysts smaller than 3 mm size and multiple small cysts in lymphatic cyst were removed along with the adjoining sub conjunctival tissue. Cysts with pterygium were excised along with pterygium tissue. Reverse peeling of pterygium was performed in all patients to avoid rupture of cyst, which was particularly located at the head of pterygium. In reverse peeling, body of pterygium was cut near the canthus and reflected back on the cornea, then it was peeled off by holding the pterygium tissue near the limbus.

All the patients were followed up for a minimum period of 1 year of surgery for the recurrence and development of any complications.

Observations

A total of 40 patients with conjunctival cysts were studied. Of these 12 patients had primary inclusion conjunctival cysts, 28 patients had secondary inclusion cysts, out of which 4 patients developed conjunctival cysts following SICS, 2 patients had post traumatic cysts, 15 patients had cysts in the pterygium, 4 patients had parasitic cysts, 2 patients had lymphatic cysts and 1 patient had an orbital cyst with rudimentary eye (Table 1).

Common symptoms that were noted in these patients were progressive increase in the size of the cyst (39.45%), cosmetic disfigurement (26.23%), foreign body sensation (27.86%), proptosis (1.6%), ocular motility restriction (3.2%) and blurred vision (1.6%). More than one symptom was also noted in many patients (Table 2).

The age group of 12 patients with primary inclusion cysts ranged from 18 to 45 years with the size of these cysts between 10 and 25 mm. Cysts were noted in early childhood in all 12 patients which progressed in size to cause various symptoms, and there was no history of trauma or ocular surgery in any of the patients. The cysts were typically located in the supero-nasal part of the orbit in 10 patients and in 2 patients it was located temporally, which was not a common site. In one young female patient the cyst was large (nearly 25 mm), temporally located, the cyst in this patient was big

Table 1. Types of cysts.

Type of cyst	Number of patients	Percentage (%)
Primary inclusion conjunctival cyst	12	30
Conjunctival cyst following SICS	4	10
Post traumatic cyst	2	5
Cyst in pterygium	15	37.5
Parasitic cyst	4	10
Lymphatic cyst	2	5
Orbital cyst with rudimentary eye	1	2.5
TOTAL	40	100

Table 2. Common symptoms.

Symptoms	Number of patients	Percentage
Progressive increase in size of cyst	24	39.45
Cosmetic disfigurement	16	26.23
Foreign body sensation	17	27.86
Proptosis	1	1.6
Ocular motility restriction	2	3.2
Blurred vision	1	1.6

enough to cause ocular motility restriction during abduction (Fig. 1A). In another young female with nasal primary cyst we noted a capillary haemangioma on the temporal side of contralateral forehead (Fig. 1B).

Complete removal of the primary cyst was possible in all cases, cysts were found to be free from surrounding tissues. Complications in the form of minor fat prolapse during dissection were noted in one patient while no intraoperative or post-operative complications were noted in other patients. Histopathology showed cysts lined with a single layer of stratified squamous epithelium containing amorphous material (Fig. 1C).

Conjunctival cyst following SICS was observed in 4 patients. In one patient cyst was 6 × 8 mm located at 10 o'clock limbus, in the second patient it was 7 × 6 mm at 12 o'clock position (Fig. 2A). In the other two patients cysts were small nearly 5 × 5 mm and located at 12 o'clock position at the limbus. Complete excision of cyst was possible in all the cases. Histopathology of the excised cyst showed a conjunctival cyst lined by the stratified squamous epithelium filled with amorphous material inside (Fig. 2B).

Of the two cases of post traumatic conjunctival cyst, one was present temporally near the lateral canthus, it resulted a month after lateral canthus tear repair (Fig. 2C). Second patient with post traumatic cyst had surgery for the repair of medial canthus nearly 6 months back, the cyst was located near the lower canaliculus. In both the cases cysts were nearly 5 × 5 mm in size, both the cysts were excised completely and histopathology showed cysts lined by stratified squamous epithelium filled with proteinaceous material.

Pterygium with cyst was seen in 15 patients (Fig. 3A). In 10 patients cyst was located at the head of the pterygium, while in rest of the 5 cases it was embedded in the body. There was no adherence of the cyst to the underlying structures in any of the patients. These cases were managed by excision of the cyst along with the reverse peeling of pterygium. Histopathology showed pterygium with stratified squamous epithelium

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