

## An Interesting Case of Subconjunctival Cysticercus Cyst: A Case Report

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### ABSTRACT

Ocular cysticercosis is endemic in tropical areas like India. It can involve any part of eye like eyelid, subconjunctival space, extraocular muscle, and anterior as well as posterior segment. Here we report a rare case of cysticercosis presenting as an isolated subconjunctival cyst that was well managed surgically. Thus, cysticercosis must be kept as a differential diagnosis of any inflammatory swelling of subconjunctival space.

**Keywords:** Cysticercosis; Subconjunctival cyst; Inflammatory; Limbus

### INTRODUCTION

Cysticercosis is a parasitic infestation caused by larval form of *Taenia solium*. Humans become the intermediate hosts for this parasite when the eggs are consumed through contaminated food and water [1]. Being endemic in India, ocular cysticercosis accounts for 1.4%-4.5% cases of cysticercosis. Involvement of eyelid or orbit is 4%, subconjunctival space is 20%, anterior segment is 8%, and posterior segment is 68% [2]. Isolated subconjunctival cysticercus cyst can easily be misdiagnosed as nodular episcleritis [3,4].

### CASE PRESENTATION

A young female, 11 years old, pure vegetarian by diet, presented with swelling in left eye temporal to limbus since past 5 months which was insidious in onset, painless and progressive. There was no history of diplopia, trauma, fever, convulsions, headache, malaise, weight loss and the mass did not increase in size on bending forward, coughing or sneezing.

On general physical examination, patient was well oriented to time, place and person and vitals were stable.

On detailed ocular examination of left eye, there was a single, ill-defined subconjunctival cyst measuring approximately 8 × 8 mm in size, 8 mm temporal to limbus (on adduction), irregular and posterior limit could not be delineated (Figure 1). Conjunctival congestion was present starting 4 mm temporal to limbus and spreading all over the swelling. On palpation with swab stick it was cystic, immobile, non-tender, non-compressible, and non-

reducible and no pulsation or thrill was felt. The cyst was causing moderate mechanical ptosis with minimal limitation in levoversion, levelevation and levoversion. Rest ocular examination was normal. Right eye was within normal limits.

On Ultrasound Bscan orbit of left eye using a water bath, a well-defined cystic lesion measuring 7.87 mm vertically and 8.70 mm horizontally with a hyperechoic high intensity spike on upper wall of the cyst suggestive of cysticercosis cyst with scolex (Figure 2).

ELISA test of *taenia solium* showed positive value of 1.18. On haematological investigations, haemoglobin was 13.2 gm%, total leucocyte count was 8000 per cumm (80% polymorphs, 20% lymphocytes) and platelet count was 3.0 lac per cumm. Stool examination did not show any ova or cyst.

MRI brain with orbit confirmed diagnosis of cysticercosis with presence of eccentric scolex associated with edema of left lateral rectus muscle with no intracranial involvement (Figure 3).

Patients were started on oral prednisolone-1 mg/kg per day for 7 days with gradual tapering for next 21 days. After two days of oral steroids administration, albendazole 400 mg HS was started for 21 days.

As the patient showed no improvement, cyst excision was performed under general anaesthesia. Patient was taken under general anaesthesia. Cyst was removed in toto taking care that lateral rectus muscle was not injured (Figure 4). After removal a thorough saline wash was done. The sample was sent to histopathology. Post operatively topical combination of

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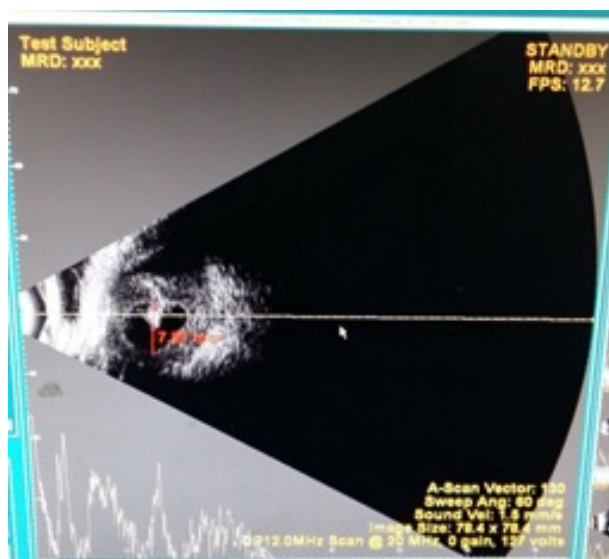
antibiotic and steroid was prescribed with gradual tapering dose over 1 month.

On histopathology, section shows fibro connective along with dense mixed inflammatory infiltrate comprising of mainly lymphocytes, eosinophils, few neutrophils and plasma cells suggestive of parasitic infestation (Figures 5 and 6). No scolex or hooklets were seen probably because albendazole and steroids were given to the patient pre operatively.

Patient became asymptomatic with full recovery of all extraocular movements.



**Figure 1:** On detailed ocular examination of left eye, there was a single, ill-defined subconjunctival cyst measuring approximately 8 × 8 mm in size, 8 mm temporal to limbus (on adduction), irregular and posterior limit could not be delineated.



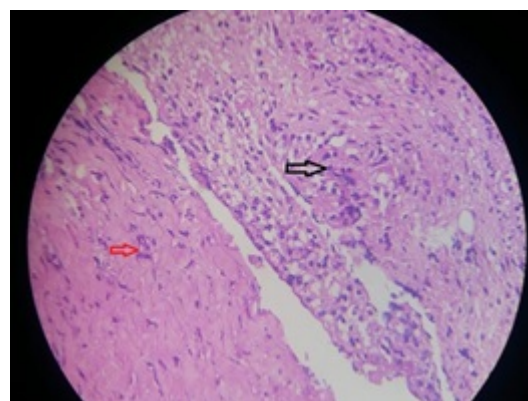
**Figure 2:** On Ultrasound Bscan orbit of left eye using a water bath, a well-defined cystic lesion measuring 7.87 mm vertically and 8.70 mm horizontally with a hyperechoic high intensity spike on upper wall of the cyst suggestive of cysticercosis cyst with scolex.



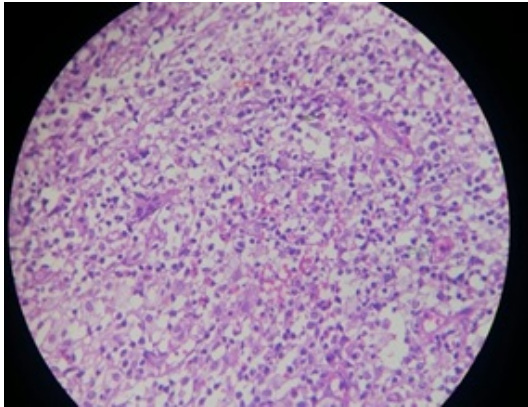
**Figure 3:** MRI brain with orbit confirmed diagnosis of cysticercosis with presence of eccentric scolex associated with edema of left lateral rectus muscle with no intracranial involvement.



**Figure 4:** Cyst was removed in taking care that lateral rectus muscle was not injured.



**Figure 5:** Fibro connective along with dense mixed inflammatory infiltrate comprising of mainly lymphocytes, eosinophils, few neutrophils.



**Figure 6:** Few neutrophils and plasma cells suggestive of parasitic infestation.

## DISCUSSION

Human cysticercosis occurs when *Taenia solium* eggs are ingested *via* fecal-oral transmission from a tapeworm host. Ocular cysticercosis is endemic in tropical areas including India [5]. The incidence of ocular involvement varies from 10%-30% in endemic areas. It affects individuals aged 10-30 years [6].

Subconjunctival cysticercosis usually presents as a painful, yellowish, nodular subconjunctival mass with surrounding conjunctival congestion. Acquired strabismus, diplopia, recurrent redness, and painful proptosis are some of the clinical signs in patients with orbital cysticercosis. One or more extraocular muscles may be simultaneously involved [7]. Hence detailed ocular examination followed by Serum ELISA for anticysticercal antibodies and imaging should be performed to make a final diagnosis [8].

Surgical removal remains the gold standard treatment modality for subconjunctival and eyelid cysticercosis. However cysts deep within the orbit are best treated conservatively with a 4-week regimen of oral albendazole (15 mg/kg/d) with oral steroids (1.5 mg/kg/d) in a tapering dose over a 1-month period [9]. Concomitant administration of corticosteroids is recommended to avert an inflammatory response [10].

## CONCLUSION

Cysticercosis must be kept as a differential diagnosis of any inflammatory swelling of subconjunctival space. Meticulous systemic examination should be done as *Taenia solium* spreads haematogenously and spread to various organs like brain, eyes, heart and spine. A definitive diagnosis can be made by ELISA for cysticercal antibodies and imaging techniques (USG B scan and MRI). Early treatment of the subconjunctival cyst should be done as it can release toxins and involve one or more extraocular muscles leading to diplopia.

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