- ***Case Report***

Subconjunctival cysticerscosis with involvement of superior muscle complex - a case report

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Abstract

Cysticercosis is a parasitic infestation caused by cysticercus cellulose. Ocular and adnexal cysticercosis represents 13% to 46% of systemic disease. There are different modes of presentation of ocular cysticercosis. **Case**: Here we report a case with the left upper eyelid ptosis. On ocular examination, there was presence of a cystic yellowish mass of size of the eye ball in the upper palpebral sub-conjunctiva along with dystropia and limitation of extraocular movements in dextroelevation. Complete surgical excision of the cyst was achieved through splitting of the left upper eyelid. There was presence of sub-conjunctival cyst along with involvement of levator palpebral superioris (LPS) and superior rectus (SR) muscle. Histopathological examination of the cyst showed features suggestive of cysticercosis. The patient was symptomatically better postoperatively. He was commenced on oral prednisolone 1mg/kg and oral albendazole 400 mg for 28 days. **Conclusion:** Cysticercosis should be considered in cases of inflammatory swelling of subconjunctival space especially in people with poor personal and community hygiene.

Keywords: Subconjunctival cysticercosis, *T.solium*, ocular cysticercosis, ptosis

Introduction

Cysticercosis is caused by infestation with cysticercus cellulosae, the larval stage of *Taenia solium*. The most common form of systemic involvement is neurocysticercosis.[1] Ocular and adnexal cysticercosis represents 13% to 46% of systemic disease.[2]

The most common site of localization reported in western studies is the posterior chamber, in the Indian literature, the orbital and adnexal is the most common site[3]. Among the orbital cysticercosis, extraocular muscle (EOM) involvement is the commonest. Most commonly involved EOM are medial rectus (42%), followed by superior rectus (18%), lateral rectus (15%), inferior rectus (13%), superior oblique (5%), levator palpebrae superioris (5%) and inferior oblique (1%).[3] However, the simultaneous involvement of the levator palpebral superioris (LPS), superior rectus (SR) muscle and subconjunctival tissue is rare. We report a rare combination of subconjunctival cyst with SR and LPS involvement presenting as unilateral ptosis.

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Case report

A 9- year- old boy from a hill district of eastern Nepal presented with the complaint of gradually progressive swelling of left upper eyelid associated with drooping of the same eyelid for three months duration. He also noticed gradual progressive diminution of vision associated with mild pain aggravated with ocular movements.

The socioeconomic status of the child was poor. He was a non-vegetarian. There was no history of headache and seizures.

The examination revealed the best corrected visual acuity in of 6/6 and 6/24 in the right and left eyes respectively. There was 2mm vertical dystopia of left eye with restricted extraocular movements in superior gazes. There was a ptosis of 7 mm with poor levator function of left upper eyelid. A cystic yellowish mass of size of the eye ball was present in the upper palpebral subconjunctiva. The mass was non-tender with negative trans-illumination test with congestion of overlying conjunctiva. The superior limit of mass was not assessable (Figure 1a,b). The cornea was clear and the anterior chamber was quiet. The detailed fundus

evaluation revealed no abnormality. The right eye was within normal limits.

Ultra sound B and A Scan of the left eye showed a cystic mass with a central echo dense highly reflective structure with high reflectivity suggestive of extraocular cysticercosis (Figure 2).

CT Scan of the orbit revealed an elongated well defined heterogenously enhancing, hypodense lesion with cystic area in the superomedial aspect of the left orbit involving levator palpebrae superioris (LPS) and superior rectus (SR) muscle complex and the left upper eyelid with a faint hyperdense focus within the cystic area with mild strandling of adjacent fat, abutting and displacing the left globe inferiorly and laterally. The findings were suggestive of extraocular myocysticercosis involving SR, LPS and left eye upper eye lid (Figure 3).The CT scan of the head was normal. Stool examination did not show any parasitic eggs.

Figure 1a: Left upper eyelid ptosis

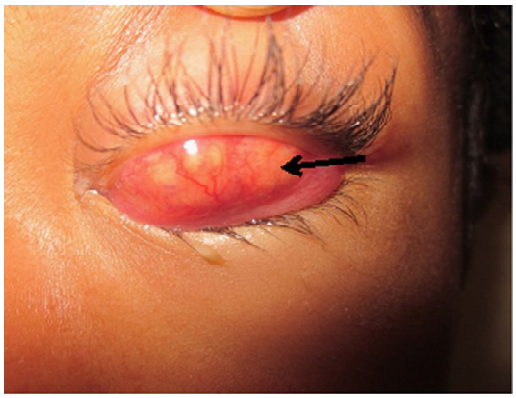

Figure 1b: Left eye showing sub-conjunctival mass with dystopia of left eye

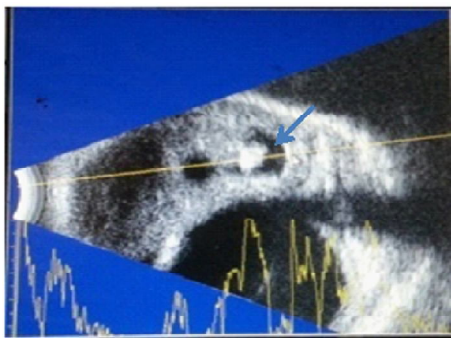

Figure 2: Ultra sound B and A Scan of the left eye showing translucent zone with a central echo dense highly reflective structure (spikes persisting upto 80 db), surrounded by a hyperdense area suggestive of ocular cysticercosis

Figure 3: CT scan orbit showing extraocular myocysticercosis involving SR / LPS and upper eye lid of left eye

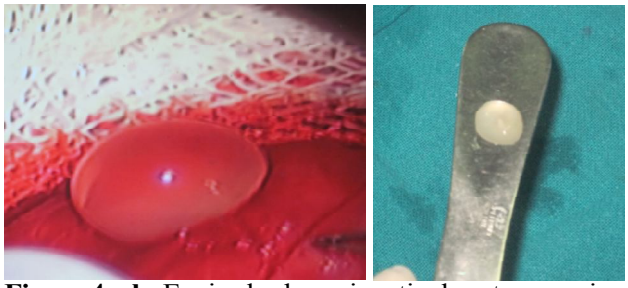

Figure 4a, b: Excised sub-conjunctival cyst measuring 4×3mm

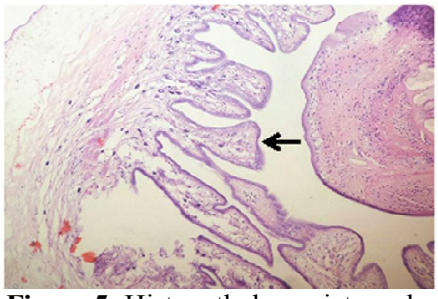

Figure 5: Histopathology picture showing cysticercus cellulose with cuticle, subcuticular and smooth muscles (H& E, 40X)

Figure 6: One week postoperative picture showing improvement in ptosis

Under general anesthesia cyst was excised through eyelid splitting approach. Intra operative diagnosis of left eye subconjunctival cysticercosis involving superior muscle complex was made. While excising the cyst there was discharge of yellowish turbid fluid. (Figure 4a, b) The excised cyst was subjected to histopathological examination.

Microbiological examination of the fluid did not show any organisms. Histopathological examination of the cyst showed cysticercus cellulosae showing cuticle and subcuticular cells suggestive of cysticercosis (Figure 5)

Tablet prednisolone 1mg/kg was started and given for four weeks in tapering dose. Tablet albendazole 400 mg was started on the second postoperative day onwards for 28 days.

The child was symptomatically better post operatively. There was significant improvement in extra-ocular movements of the left eye (Figure 6).

Discussion

Semmering was the first to report a case of ocular cysticercosis in 1830 and the larva was isolated by Schott in 1836[4]. It is frequently reported from poor countries where people have poor personal hygiene. Such a situation prevails in this case as well. The clinical manifestations vary according to location, size, relation to adjacent structures and stage of development of the cyst. A review of the literature on orbital and adnexal cysticercosis revealed a predilection for children and young adults with no sex preponderance.[5] Extraocular muscle involvement is the most common variety of orbital cysticercosis. The subconjunctival space is the next common site, followed by the eyelid, optic nerve, retro-orbital space and lacrimal gland. [5] All the extraocular muscles are involved in myocysticercosis. However, the lateral rectus, medial rectus and the superior oblique muscles have been found to be affected to a greater extent.[6]

Our patient presented with subconjunctival cyst along with ptosis of the left eye upper lid along with the involvement of SR and LPS muscle complex. A live cyst usually produces a mass effect, whereas the dying parasite releases toxins that lead to foreign body reaction and secondary inflammation of the involved and surrounding structure.

Diagnosis of cysticercosis is based mainly on orbital imaging because of its highly specific appearance. High resolution ultrasonography (USG), computed tomography (CT) and magnetic resonance imaging (MRI) help in detection of the orbital cyst.[7]

Management of ocular cysticercosis depends upon the location of the parasite and tailored according to the activity of the disease. Medical therapy with albendazole and oral steroid is recommended for the extraocular muscle form and retro-orbital cysticercosis, and dramatical improvements have been reported.[5,8,9]

In our case, the patient underwent surgical excision of the subconjunctival cyst followed by administration of oral prednisolone 1mg/kg in tapering dose along with oral albendazole 400mg started from second postoperative day for 28 days. Dramatic improvement was seen in postoperatively (Figure 6).

Conclusion

Subconjunctival cysticercosis can present as ptosis, so it should be considered in any cases of inflammatory swelling of subconjunctival space and ptosis, especially in people with poor personal hygiene of lower socioeconomic status.

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