Case Report

Anterior Segment Findings in Ocular Myocysticercosis in Children: Is it non- specific?

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Abstract

Ocular cysticercosis is a preventable cause of blindness. Medical therapy has been recommended for the retro-orbital and extraocular muscle form. Surgical management is largely done in cases with conjunctival or lid affliction. Though, the medical management is simple; however, the diagnosis is challenging. The anterior segment findings often mimic the more common pathologies and hence often missed at the early stage. This case series of 3 pediatric patients, tries to highlight certain clinical clues which are suggestive of ocular myocysticercosis in children. Literature often recalls anterior segment findings in ocular myocysticercosis as "non- specific and non-diagnostic". Canthal congestion and contiguous conjunctival congestion extending upto corresponding limbal border in absence of anterior chamber inflammation with other clinical clues are very suggestive of corresponding recti myocysticercosis.

Key words: Ocular myocysticercosis, Conjunctival congestion.

Introduction

Ocular myocysticercosis is a preventable cause of blindness (David S et al, 2000) and has always been a challenge in terms of its varied presentations and in making its diagnosis. Proptosis, ptosis, medial canthal mass are the various presentations of myocysticercosis of extraocular muscles. Among adults, the presentations are often obvious and not very difficult to diagnose, however among children the findings are often subtle. Anterior segment findings are often considered "non- specific and non- diagnostic" in ocular myocysticercosis (Dhiman et al, 2017). Is this statement true or are we missing a pattern? This case series of 3 patients with ocular myocysticercosis brings out certain clinical clues that help in early diagnosis and prompt management of ocular myocysticercosis in children.

Case 1

A 7 years old female was brought to the ophthalmology Out Patient Department with complaints of recurrent episodes of redness in

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the right eye for the last 4 months. The patient had received multiple cycles of topical steroids elsewhere for recurrent episodes of redness in the right eye and a diagnosis of recurrent episcleritis was made. At the presentation to our clinic, the uncorrected visual acuity in both eyes were 6/6. On careful examination of the right eye extraocular movements, limitation of abduction was noted in the absence of any obvious ocular swelling; however, other eye ocular movements were essentially normal (Figure 1a). On slit-lamp examination, engorged parallel running episcleral vessels were noted extending from medial canthus to the nasal limbus (Figure 1b). The anterior chamber was quiet.

Case 2

A 5 years old male child came to the clinic with complaints of redness in the right eye for 3 months. The patient was diagnosed as a case of right eye episcleritis, and was being treated by local practitioners with topical steroids for 3 months. At the presentation the ocular movements were normal. Considering the history of response to topical steroids the patient was continued on topical steroids for 1 month. However, at the 1-month visit, limitation of abduction was noted (Figure 2a). The right eye congestion was typically seen over the lateral canthus and reaching till the temporal edge of the limbus in the absence of signs of any intraocular inflammation (Figure 2b).

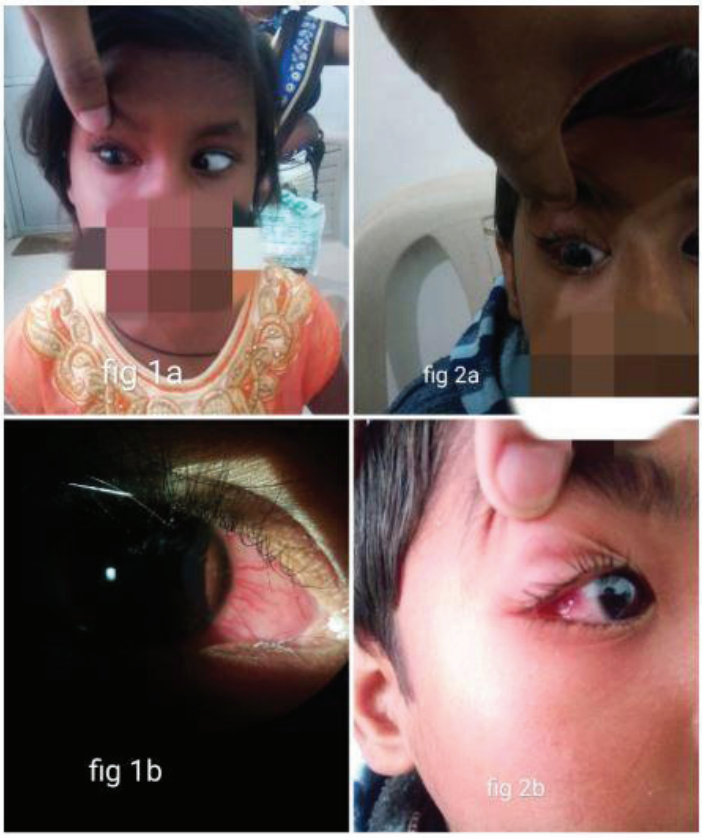

Figure 1a and 1b: Showing limitation of abduction and typical congestion involving medial canthus and corresponding limbal border.

Figure 2a and 2b: Showing limitation of abduction and typical congestion involving lateral canthus and corresponding limbal border.

Case 3:

An 8 years old male child presented to the clinic with painless, periocular swelling and temporal conjunctival congestion. There was no limitation of ocular movements. The pattern of conjunctival congestion was very similar to Case 2 (Figure 3a, 3b 3c).

Based on the history of recurrent episodes of episcleritis, all three patients were investigated thoroughly. History of eating uncooked, raw vegetables could be elicited in all cases. ESR was raised in all cases with the differential count showing eosinophilia. Considering the raised eosinophil counts and canthal congestion in all cases, and limited ocular motility in 2 cases, a parasitic infestation was suspected. B-scans showed enlarged medial rectus in case 1 and enlarged lateral rectus in case 2 and 3 respectively with hypoechoic cystic mass with a central hyperechoic area corresponding with a high spike in A-scan, suggestive of the scolex (Figure 4). A presumptive diagnosis of ocular myocysticercosis was made for each of these cases. A detailed dilated fundus examination was done to rule out intraocular cysticercosis.

Neurocysticercosis being the commonest presentation of cysticercosis was investigated for, and a CT brain and orbit was advised for both cases. The CT brain did not reveal any evidence of neurocysticercosis. All were started on oral albendazole 15mg/kg/day in 2 divided doses along with oral and topical steroids. Cases 1 and 2 regained full ocular motility in 5-7 weeks and the congestion resolved completely by the end of 4 weeks. All 3 cases were given treatment for 1 month and are under surveillance on follow-up for any recurrence by serial ultrasound. All patients have completed a follow-up period of >6 months without any recurrence.

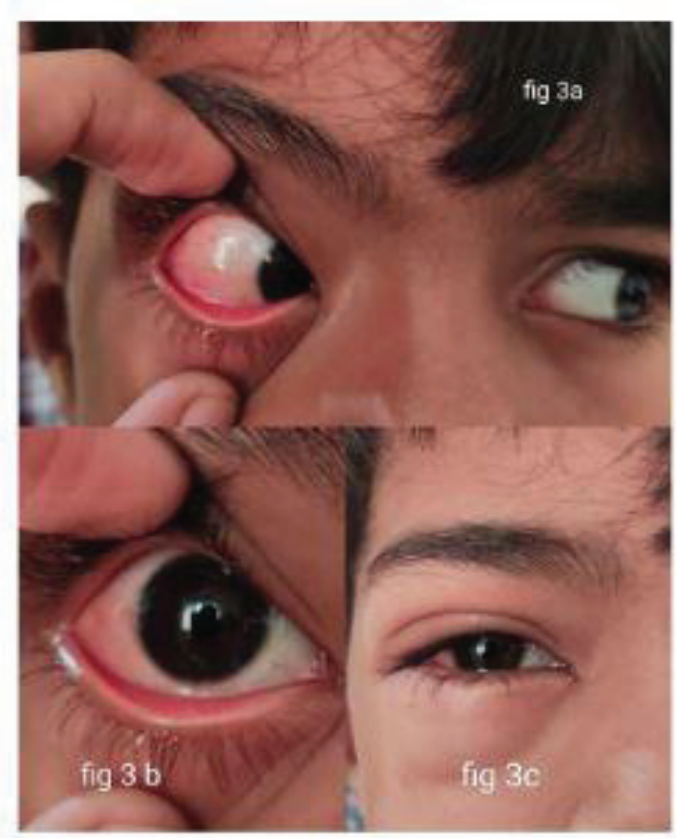

Figure 3a, 3b and 3c: Showing periocular swelling at presentation along with typical congestion involving lateral canthus and corresponding limbal border in absence of limitation of ocular movements

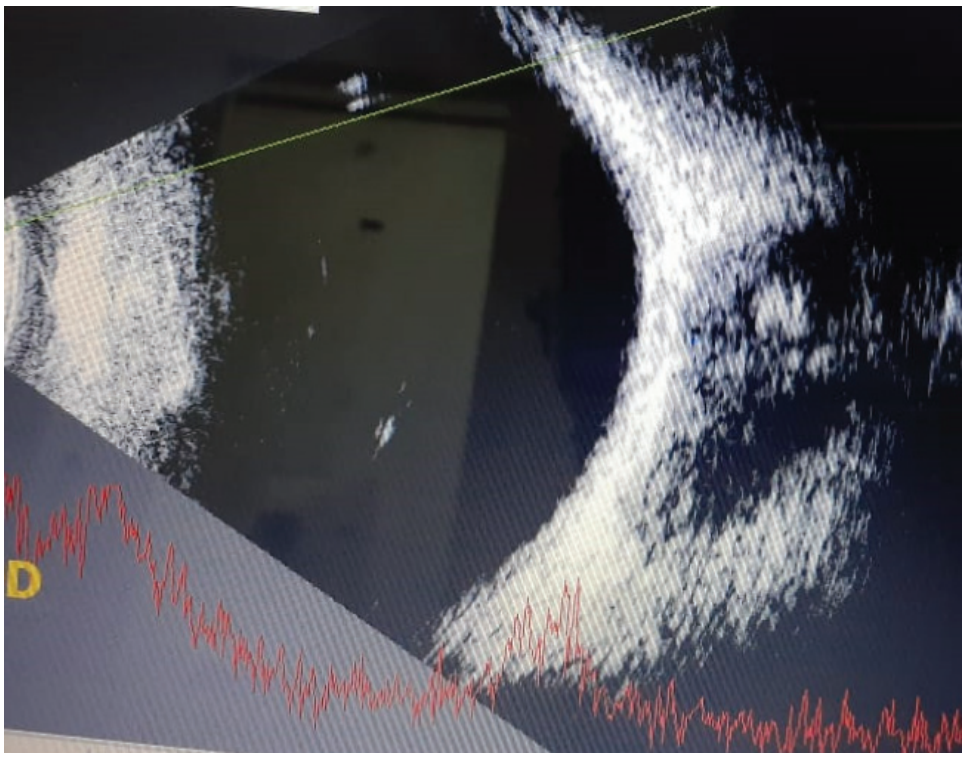

Figure 4: Showing enlarged medial rectus with cystic lesion with central hyperdense scolex in case 1.

Discussion

Persistent localized redness of the eye needs a thorough evaluation. The various differentials include episcleritis, localized scleritis, localized conjunctival inflammation either due to impacted foreign body or irritation due to foreign body in the corresponding tarsal conjunctiva. The exact cause needs to be looked for. This case report tries to bring to the notice of practicing ophthalmologists that anterior segment findings in ocular myocysticercosis in children can be very suggestive. The typical pattern of canthal congestion extending up to the corresponding limbal border is likely due to a more anterior location of cyst in the muscle with inflammation of overlying conjunctiva. The recurrent redness could be because of the inflammation due to leaked parasitic (dying or sometimes living also) fluid in the body (R. Dhiman et al., 2017).

The inflammation incited by the parasitic fluid in these cases were often taken care of by topical steroids. The limitation of ocular motility (abduction limitation) in both cases, can be explained by the relative difference in distance of insertion of extraocular muscles from the limbus and the changed dynamics consequent to the presence of cyst at a different location within the recti. Limitation of extraocular movements is well-documented in literature, and superior rectus is the most commonly involved (Rath et al, 2010). Ocular cysticercosis is endemic in tropical areas including India (Kaliaperumal, Rao et al 2005). Extraocular cysticercosis is reported very commonly from India (Rath et al, 2010). Medical therapy has been recommended for the retro-orbital and extraocular muscle form (Mohan et al, 2005). Medical management involves oral albendazole and steroids. (Sihota

et al 1994; Sundaram et al 2004) In the current series, all cases were medically managed.

Conclusion:

Surgical management is largely done in cases with conjunctival or lid affliction. The anterior segment findings in ocular myocysticercosis are often labelled as "non- specific and non-diagnostic" and more so in pediatric patients. These cases will try to put forth a pattern of clinical signs, which if present along with the above-mentioned features suggest ocular myocysticercosis in children.

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