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Lateral Rectus Muscle Myocysticercosis Presenting as Acute Proptosis in a Child: A Case Report

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Abstract: ***Extraocular muscle cysticercosis is an uncommon cause of pediatric proptosis and may clinically mimic inflammatory orbital conditions. We present a case of a 4-year-old male child who presented with acute onset proptosis of the left eye for two days, without any history of trauma or visual impairment. Radiological evaluation revealed a well-defined cystic lesion with an eccentric hyperdense focus within the lateral rectus muscle, suggestive of myocysticercosis. The child was treated conservatively with oral albendazole and systemic corticosteroids, resulting in significant clinical improvement. Early recognition and appropriate medical management can lead to complete resolution and prevent long-term complications.***

Keywords: Orbital cysticercosis, Myocysticercosis, Lateral rectus, Pediatric proptosis

1. Introduction

Cysticercosis is a parasitic infection caused by the larval stage of *Taenia solium* and remains a major public health problem in developing countries.[1,2] Although the brain, subcutaneous tissue, and skeletal muscles are commonly affected, ocular involvement is relatively rare.[1,3] Orbital cysticercosis may involve extraocular muscles, orbital fat, or optic nerve sheath and often presents with non-specific symptoms such as proptosis, pain, or diplopia.[3,4]Due to its variable presentation and rarity, diagnosis may be delayed. We report a rare case of lateral rectus muscle cysticercosis in a young child presenting with acute proptosis.

2. Case Report

A 4-year-old male child was brought with complaints of sudden onset, progressively increasing protrusion of the left eye for two days, associated with mild pain. There was no history of trauma, fever, redness, discharge, or reduction in vision. Child was non vegetarian by diet, but never had history of consumption of pork.

On ophthalmic examination, facial asymmetry was noted. (Figure1). Best-corrected visual acuity was 6/6 for distance and N6 for near in both eyes. Right eye was normal. On left side proptosis was present, eyeball was pushed downwards and outwards.

Fundus examination was within normal limits. Extraocular movements were full in the right eye, while restriction was noted on lateral gaze in the left eye (Figure 2). Proptosis measured by Luedde's exophthalmometer was 18 mm in the right eye and 23 mm in the left eye. Intraocular pressure was within normal limits. No regional lymphadenopathy or systemic abnormality was detected.

Routine blood investigations showed raised erythrocyte sedimentation rate. Computed tomography of the orbit demonstrated a well-circumscribed cystic lesion with an eccentric hyperdense focus within the belly of the left lateral rectus muscle, suggestive of a parasitic cyst. (Figure 3). B-scan ultrasonography of left orbit showed a cystic lesion in inferotemporal region of the eyeball (Figure 4)

Neuroimaging showed no evidence of neurocysticercosis. Stool examination was positive for cysts. Based on clinical and radiological findings, a diagnosis of lateral rectus muscle cysticercosis was made.

The patient was started on oral albendazole at a dose of 15 mg/kg/day along with oral prednisolone at 2 mg/kg/day, following pediatric consultation. Albendazole was administered for two weeks, while steroids were gradually tapered over one month. Marked reduction in proptosis and pain was noted within one week of initiating treatment. (Figure 5)

On follow-up, the child showed significant improvement with reduction of proptosis to 20 mm and complete resolution of ocular motility restriction. The patient remains under regular follow-up with no recurrence.

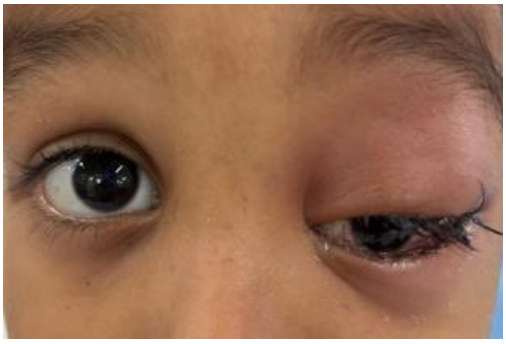

Figure 1: Patient at presentation

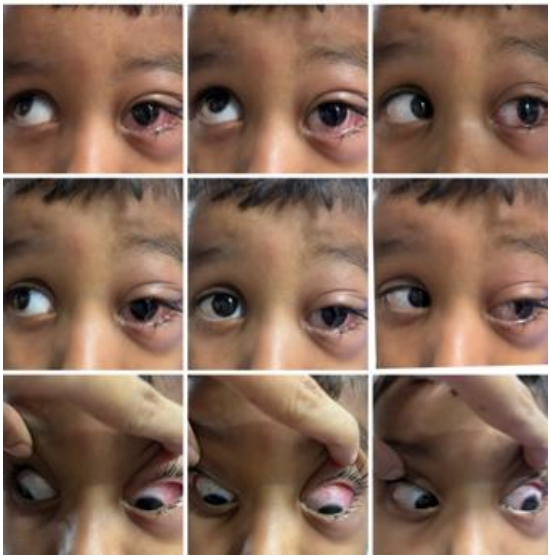

Figure 2: Extraocular movements at presentation

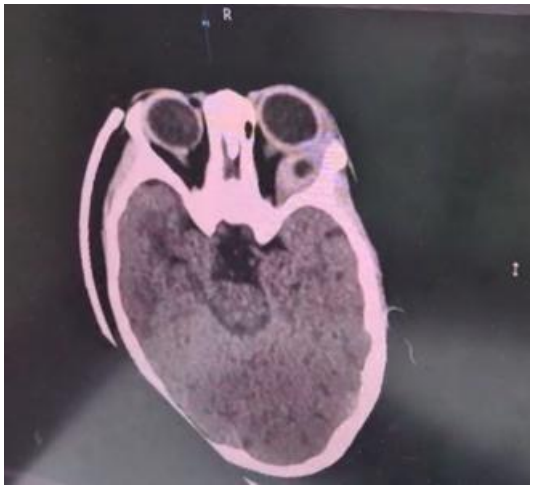

Figure 3: Computed tomography of the orbit demonstrated a well-circumscribed cystic lesion with an eccentric hyperdense focus within the belly of left lateral rectus muscle

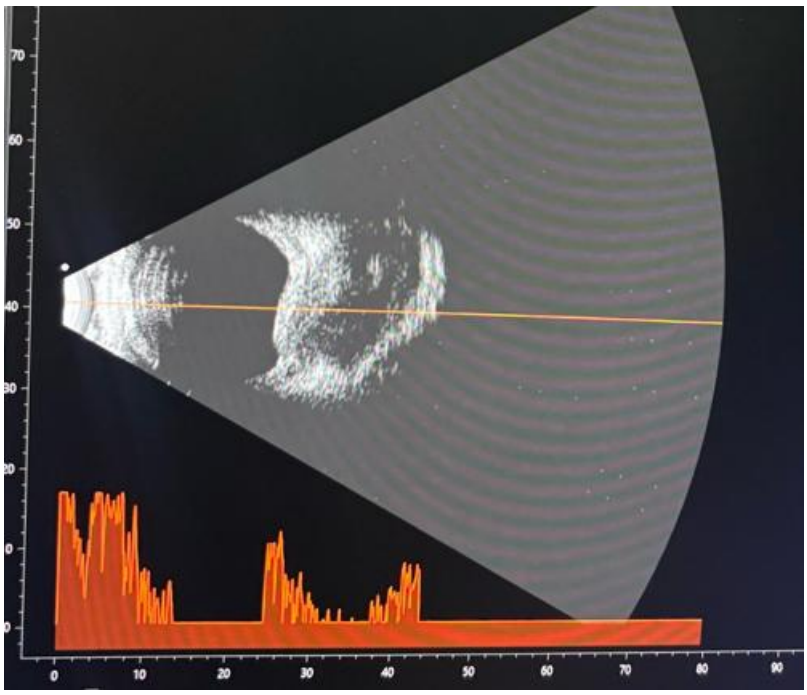

Figure 4: B-scan ultrasonography of the left orbit showing a cystic lesion in inferotemporal region of the eyeball

Figure 5: After 1 week of treatment -Marked reduction in proptosis

3. Discussion

Orbital cysticercosis is an uncommon manifestation of *Taenia solium* infestation and accounts for a small proportion of orbital space-occupying lesions.[1,3] Extraocular muscle involvement is more common than intraocular disease; however, isolated involvement of the lateral rectus muscle is relatively rare, especially in the pediatric age group.[5]

The clinical presentation depends on the muscle involved and the host inflammatory response and may include proptosis, pain, diplopia, or restriction of ocular movements.[3,4] These non-specific features often mimic orbital cellulitis or neoplastic conditions, leading to diagnostic delay.[3]Acute onset proptosis, as seen in the present case, is an unusual presentation.

Imaging plays a crucial role in diagnosis. Computed tomography and magnetic resonance imaging typically demonstrate a well-defined cystic lesion with an eccentric scolex, which is pathognomonic.[3,5] Neuroimaging is essential to rule out associated neurocysticercosis.[5,6]

Rath et al. reported that although extraocular muscle cysticercosis is common, isolated lateral rectus involvement is infrequent and often associated with neurocysticercosis.[5] Ziaei et al. described lateral rectus cysticercosis with a subacute presentation and prominent inflammatory signs.[4] The present case is distinct due to the very young age, acute onset of proptosis within two days, isolated lateral rectus involvement, and absence of neurocysticercosis, with preserved visual function. Most reported cases of extraocular muscle cysticercosis describe subacute or chronic presentations, commonly involving the medial rectus or multiple extraocular muscles, while isolated lateral rectus involvement in children is uncommon.[3,5] Such cases have been reported only sporadically in the literature.[4,5]

Medical management with albendazole and systemic corticosteroids is the treatment of choice and usually results in excellent outcomes.[5] Surgical intervention is reserved for selected non-responsive cases.[5]

Early diagnosis and prompt medical therapy in our patient led to rapid resolution of symptoms and complete recovery, avoiding surgical intervention.

4. Conclusion

Orbital myocysticercosis should be considered in the differential diagnosis of acute pediatric proptosis.[1,5] Although traditionally thought to be only prevalent in endemic regions with poor sanitation, immigration requires even ophthalmologists practicing in industrialised areas to be aware of this masquerading condition's presentation and treatment.[4] Prompt diagnosis using imaging and early initiation of medical therapy can result in complete resolution and prevent unnecessary surgical intervention.[5]

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