Case Report

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A rare case report of solitary intramuscular cysticercosis of right forearm involving the extensor muscle group

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ABSTRACT

Cysticercosis is an infection with the larval form of the *Taenia solium* that commonly involves the central nervous system. Isolated muscular involvement is rare with only a handful of cases reported in the literature. We present a case of isolated cysticercosis of the extensor muscles of the forearm that presented a diagnostic challenge. High resolution ultrasound of the forearm helped in the diagnosis and the patient was managed successfully on antihelminths and anti-inflammatory medications.

Keywords: Cysticercosis, Forearm

INTRODUCTION

Cysticercosis is caused by the larval form of *Taenia solium, Cysticercus cellulosae*. Endemic regions for this parasite includes Africa, Eastern Europe, Mexico, and South-East Asian regions. The disease commonly affects the central nervous system, but it may affect eyes, subcutaneous tissues, liver, skeletal muscle, and at times lung and heart, causing varied clinical manifestations.

Most soft tissue and muscular cysticercus affection is associated with central nervous system involvement or multiple cysts. Solitary cysticercosis of muscle without involvement of central nervous system is rare causing diagnostic dilemma due to lack of specific features. ¹⁻⁶ There have been reports of a few cases of intramuscular cysticercosis that did not affect any other organ. We present a case of young girl with solitary intramuscular cysticercosis involving extensor muscles of the right forearm.

CASE REPORT

A 17-year-old female from Bihar presented to us with progressive painful swelling over the dorsal aspect of right forearm for 3 weeks duration. She also had 2 spikes of fever over the last week. On examination the swelling was approximately 3×2 cm in size, soft in consistency and tender.

Ultrasound revealed a $14 \times 7 \times 7$ mm well defined thin walled cystic space occupying lesion in right upper forearm postero-laterally. A small echogenic nidus fixed with the inner wall of the cyst suggestive of scolex was noted along with surrounding thick irregular collection of 4-5 ml volume and muscle edema. Mild peripheral vascularity was seen on color Doppler imaging.

In view of above findings, a diagnosis of intramuscular cysticercosis was made and patient was given a course of oral anti-helminthes and anti-inflammatory medications.

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On follow up, the patient was relieved of the swelling and pain. Follow up ultrasound showed no residual lesion.

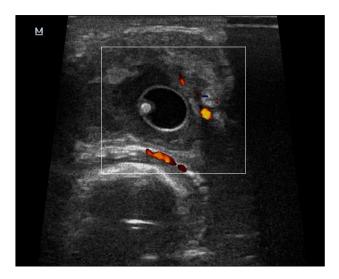


Figure 1: Ultrasound image showing cysticercus with peripheral collection, edema and mildly increased vascularity in the extensor compartment of right forearm.

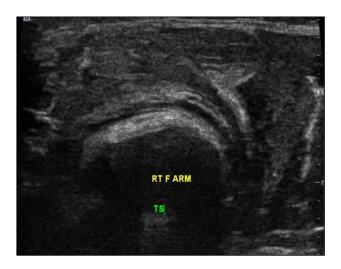


Figure 2: Follow up ultrasound (Ts: transverse section) of extensor compartment of right forearm showing no residual lesion.

DISCUSSION

Cysticercosis is a parasitic infection caused by the larvae of *Taenia solium*. It is transmitted to humans by ingestion of eggs from contaminated water or food.

The eggs hatch in the small bowel and release oncospheres which penetrate the bowel mucosa and enter the bloodstream to reach various tissues, where they develop into the encysted larval form causing cysticercosis. Living larvae escape immune recognition and do not elicit inflammation but the death of the larvae resulting in leakage of cyst fluid may elicit the inflammatory response.

Cysticercosis most commonly involves the central nervous system but intramuscular cysticercosis has been reported much less frequently. The muscular form of cysticercosis, when confined to muscles, is generally asymptomatic, although distinct types of clinical manifestations each with its own sonographic features have been described: the myalgic; the myopathic type; the nodular or mass like type; and the rare pseudohypertrophytype.

During the death of the larva, there is leakage of fluid from the cyst resulting in acute inflammation leading to local pain and myalgia. Alternatively, degeneration of the cyst may result in intermittent leakage of fluid, eliciting a chronic inflammatory response, with collection of fluid around the cyst, resulting in the mass-like type, the pseudotumor type or the abscess-like type. Alternatively, the cyst retracts, its capsule thickens and the scolex calcifies. In our case the lesion appeared as an oval or round well-defined.⁷

Cystic lesion with an eccentric echogenic scolex in it with surrounding fluid collection and edema suggestive of the pseudotumor type.

CONCLUSION

Isolated intramuscular cysticercosis is a diagnostic challenge for the surgeons and may present in a variety of forms.

High-resolution ultrasound, being non-invasive and non-ionizing, plays an important role in establishing the diagnosis in patients with muscular cysticercosis and the patient can be managed conservatively. We present a rare case of isolated cysticercosis in the extensor muscle group of forearm. To our knowledge, this is only the first case to be reported in the literature. We successfully managed the patient with a combination of albendazole and anti-inflammatory medications.

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