Case Report

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# Cysticercosis of gastrocnemius muscle

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## ABSTRACT

Cysticercosis is a common parasitic infection in our part of the world involving the central nervous system, adnexal structures of the eye, skeletal muscle, and subcutaneous tissue. The principal mechanism of transmission is through ingestion of Taenia Solium eggs or contamination of fruits and vegetables fertilized with contaminated faecal materials. Solitary intramuscular cysticercosis, without symptoms of central nervous system involvement is rare. We present a case of solitary intramuscular cysticercosis involving gastrocnemius muscle in a 12-year old boy, a rare picture without any neurologic or systemic manifestation.

**Keywords:** Cysticercosis, Gastrocnemius

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## INTRODUCTION

Cysticercosis is caused by encysted larvae of tapeworm Taenia solium, the pork tapeworm. This disease is endemic in our part of the world. Mostly central nervous system (60-90% of the cases) is involved.1 It is rare to have isolated muscular involvement without the symptoms of central nervous system involvement, and may cause diagnostic dilemma. Our patient presented with rarely seen isolated intramuscular mass in gastrocnemius muscle

## CASE REPORT

A 12-year old child presented with mass in left calf for 1 year which rapidly increased in size and became painful for one month. There was no history of fever and trauma. For the investigation, Ultrasound and MRI was done. Ultrasound showed cystic mass with a hyperechoic shadow, suggesting a parasitic cyst with scolex.(Figure 1) MRI showed relatively well- defined T1 low and T 2 high signal intensity lesion, with T 1 hyperintense rim with surrounding muscular and tendinous edema, which were the features of myocysticercosis with infection, or muscular

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strain with surrounding muscular edema. (Figure 2) FNAC was done, which showed acute inflammatory cells suggesting infection . Excisional biopsy was planned . During surgery , a woody mass was found in the gastrocnemius muscle , which was excised . On cross section , liquefaction of the center of the mass was seen. On histopathological examination , the features of myositis , with eosinophil rich inflammation and vague granuloma , which suggested parasitic lesion was found. The patient was prescribed 4 weeks of Albendazole and he improved uneventfully.

## DISCUSSION

Human cysticercosis is a tapeworm infection caused by T. solium. This condition is common in our part of the world .[2] It is considered the most common parasitic disease of the central nervous system in immunocompetent individuals .[3,4] Less frequently , other organ systems can also be involved, including skeletal muscle, subcutaneous tissue , the eyes , the tongue , the oral cavity , the breast, the heart, and the lungs .[5,6,7] In the normal life cycle of T. solium, people are definitive hosts and pigs are intermediate hosts . Sometimes , human beings also become the intermediate hosts by ingesting eggs from contaminated food or water. [3,8,9] Cysticerci form in human beings , in central nervous system and less commonly in the eyes, lungs , heart , oral cavity , or breast .[5,6,7] The encysted larvae may remain viable for years and usually produce no symptoms.

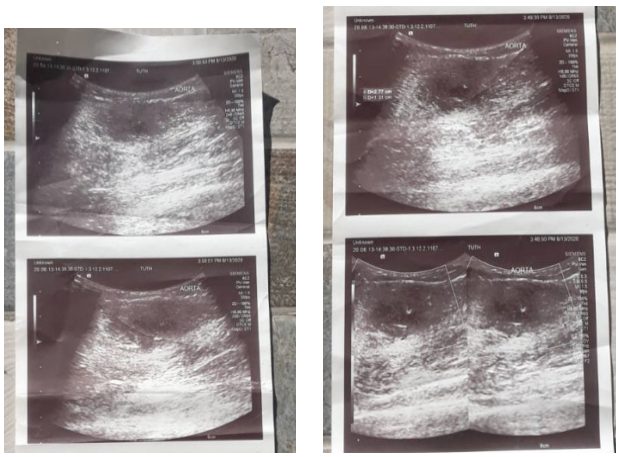

**Figure 1. Ultrasound of the lesion**

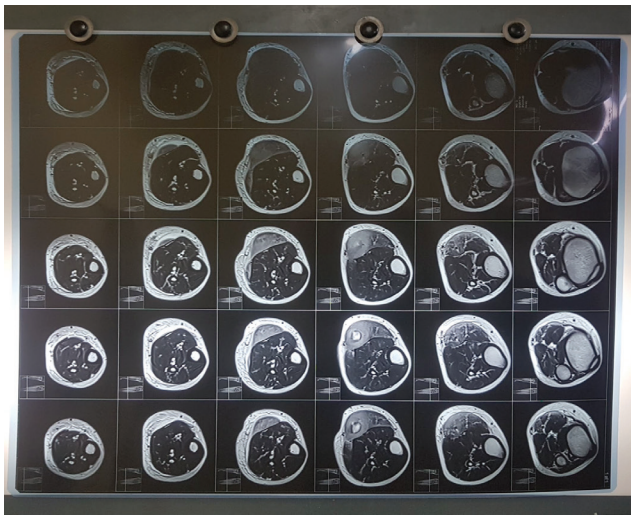

**Figure 2. MRI of the lesion**

Ultimately , the larvae die; this induces a granulomatous inflammatory response that may produce symptoms, depending on the anatomic site.[4, 5,10] Isolated muscular involvement is rare in cysticercosis.[11] There are very few cases with isolated muscular cysticercosis reported in the literature. [4,10,12–16]

The intramuscular cysticercosis may present clinically as myalgia, pseudotumor, soft tissue tumour, lipomas, epidermoid cysts, granular cell tumours, neuroma, neurofibromas, sarcoma, myxoma and pyomyositis.[17]

Three different clinical manifestations of muscular cysticercosis are described: myalgic myopathic type; the nodular or mass like type; and the pseudohypertrophy type in which multilocular cyst formation occurs in group of muscle . The myalgic type results from death of the cyst and leakage of fluid leading to inflammation .The nodular type or pseudotumor type both result from degeneration of the cyst and slow intermittent leakage of fluid over time , leading to a chronic inflammatory response with collection of fluid around the cyst producing a mass .[18]Our case was characteristic of the myalgic variant.

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