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## Myocysticercosis as a rare cause of hand swelling involving thenar group of muscles: A rare case report & literature review

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### Abstract

Cysticercosis is a common human parasitic infection caused by larval form of *Taenia solium*, *Cysticercus cellulose*. It usually presents as neurocysticercosis. Involvement of skeletal muscles, eyes, subcutaneous tissues, lungs, brain is rare. We report a case of isolated myocysticercosis of thenar group of muscles of hand. Diagnosis of cysticercosis was made on high resolution ultrasound of swelling. Patient was managed conservatively on anthelmintic and anti-inflammatory medications.

**Keywords:** Cysticercosis, surgical excision, ultrasonography

### Introduction

Cysticercosis is caused by cysticercosis cellulose, larva form of *Taenia solium*. Humans acquire infection through faeco-oral route contamination with *Taenia solium* eggs from carriers of tapeworm. It is endemic in developing countries in Central, South America, Asia and Africa. Isolated myocysticercosis of thenar muscle of hand is a rare clinical entity. High resolution ultrasound is valuable, safe, non-ionising, cost-effective, widely-available imaging tool for diagnosis of myocysticercosis. We report a case of young boy with solitary swelling involving thenar muscles of left hand.

### Case Report

A 6 years old boy from Nepal presented in outpatient department with progressive painless swelling over the ventral aspect of left hand for 4 month duration. There was no history of fever, trauma, epilepsy, sensory or motor deficit.

On general physical examination: Swelling of size 2.5 × 2 cm present in thenar region of left hand. It was soft in consistency, non-tender, ovoid shape, non-pulsatile, cystic in nature. There was no similar swelling elsewhere in the body. Clinical differential diagnosis of subcutaneous lipoma & abscess was made. Ultrasound revealed cystic lesion with echogenic nidus measuring 6.6 × 4.5 mm is seen in muscle plane of left thenar region with surrounding hypoechoic collection measuring 1.4×1.0 cm. On changing position of left hand this focus (nidus) showed mobility.

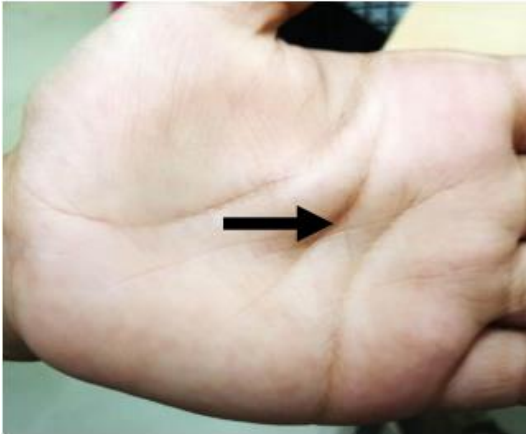
In view of above findings diagnosis of myocysticercosis was made and patient was given a course of oral anti-helminthes and anti-inflammatory medications, Follow up after three weeks swelling completely resolved and ultrasound showed no residual lesion.

### Discussion

Cysticercosis is a parasitic infection caused by larva stages of pork tapeworm *Taenia Solium* [1]. Humans are infected by consuming gravid proglottids through feco-oral route or by autoinfection [2]. Cysticercosis is commonly seen in brain and eyes, which constitute 86% of the cases. The remaining 14% are in subcutaneous, pulmonary, Cardiac, muscular, hepatic and oral locations [3]. Variations with in geography, ethnicity, religion, income, food habits, personal hygiene, standard of living and level of education influence the disease burden [4].

Presentation of cysticercosis depends on its location in the body, number of lesions, site and on inflammatory response generated. Three different types of myocysticercosis have been described in literature [5]. Myalgic type is due to leakage of cyst fluid causing inflammatory pain.

Myopathic types in which degeneration of cyst cause chronic minimal leakage from cyst leading chronic inflammatory mass or abscess like swelling. Pseudo-hypertrophy type in which multilocular cyst formation occurs in a group of muscle. Diagnosis is relatively difficult on clinical basis because manifestations are not specific [6]. High resolution ultrasound is a valuable, safe, non ionising cost-effective, widely available, computed tomography (CT) and magnetic resonance imaging (MRI) scans are the other imaging modalities for evaluating mycysticercosis. They help in showing location, number and relationship of cysticercosis to surrounding structures. Diagnosis of cysticercosis in our case was made on the basis of high resolution ultra sonographic findings.



**Fig 1:** Clinical photograph showing a swelling (arrow) over the thenar aspect of left hand



**Fig 2:** Ultrasound image showing cysticercus with peripheral collection, edema in thenar muscles of left hand.

FANC is an important tool for evaluation of mycysticercosis. It is painful, having risk of infection, bruising and hypersensitivity reactions. High resolution ultrasound should always be primary mode of diagnosis.

Treatment of mycysticercosis depends on location of cyst. Surgical excision for isolated soft tissue cysticercosis associated with abscess [9]. Cysts which are not associated with abscess are treated with antihelminthic medications such as Albendazole, praziquantel. Follow-up ultrasound performed after three weeks of antihelminthic medication. Preventive measures include good personal hygiene, proper hand washing and sanitization, adequate washing and cleaning of vegetables, pork, proper disposal of human faeces, treatment & prevention of human intestinal infection.

## Conclusion

Myocysticercosis of hand is a rare clinical entity and a diagnostic challenge for surgeons, therefore high index of suspicion is required in endemic region like India. High resolution ultrasound, being non-invasive non-ionizing, cost effective, safe, widely available should always be primary mode in establishing diagnosis of isolated myocysticercosis. The patient should be initially managed conservatively with antihelminths and anti-inflammatory medication to avoid unnecessary fine needle aspiration and excision biopsy.

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