Myocysticercosis as a cause of hand swelling: A case report

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ABSTRACT

Cysticercosis is a common human infestation in developing and underdeveloped countries, that usually presents as neurocysticercosis. It usually involves the brain and eyes, but skeletal muscles and subcutaneous tissues are less commonly affected. We report this case of myocysticercosis as an isolated hand swelling. We want to emphasize that myocysticercosis should be considered as a differential diagnosis in developing countries like ours and surgical excision is needed in most of these cases.

KEYWORDS: Hand, Myocysticercosis, Swelling

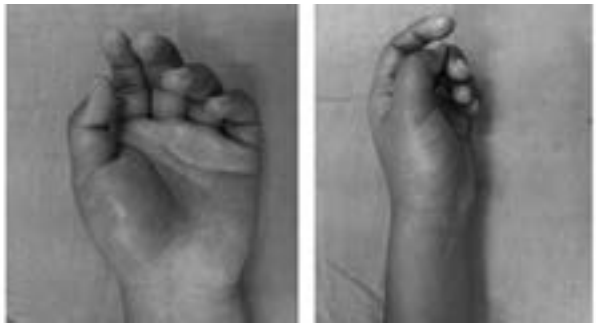
INTRODUCTION

Cysticercosis is a parasitic infestation by the larvae of tapeworm, Taenia solium. It is a common infestation in developing countries when a person ingests undercooked pork containing the worm eggs. It is highly prevalent in South-East Asian, African, and Eastern European countries.[1-3] The eggs migrate and the resulting larvae infects the human tissues most commonly the central nervous system. Other less common sites are the eyes, liver, subcutaneous tissue, skeletal muscles and rarely the heart and lungs.[1-3] The symptoms depend on the location and the associated inflammation surrounding the encysted larva. Diagnosis is based on clinical findings, USG, MRI and histopathology. Treatment consists of medical management (praziquantel, albendazole, steroids) and surgical excision in accessible sites. Most of the cysticercosis is associated with neurological or ocular involvement and cases involving the muscles of hand is very rare. Hence, we describe a rare case of intramuscular cysticercosis in hand.

CASE REPORT

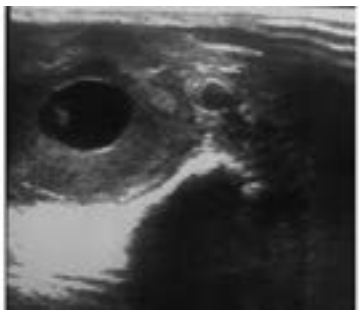
A 23 years old female presented to our orthopedic clinic with a swelling on the thenar eminence of her left hand. The swelling started as a small nodular swelling 20 months ago with a gradual enlargement. The swelling was non-tender, non-fluctuant, and non-reducible. There was no history of trauma, epilepsy, sensory or motor deficit of her involved hand, fever, cough, or tuberculosis in the patient or family members. She was non-vegetarian. The swelling increased significantly in size10 days ago, associated with pain and redness at the site. On presentation the overlying skin appeared erythematous, tender, non-fluctuant measuring 3x3 cm. The surface was smooth, margins were ill defined and fluid thrill was absent. The swelling was fixed to underlying structures but overlying skin was free (Figure 1).

Fig.1: Clinical Pictures shows ill defined, smooth swelling over the left thenar eminence.



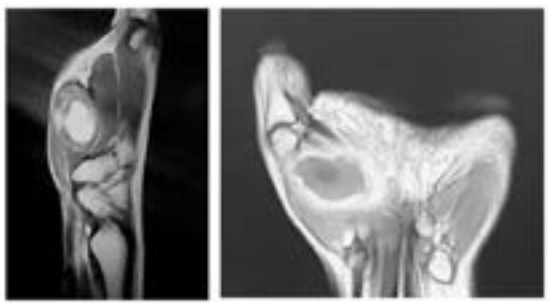
Ultrasonography of the swellings revealed a cystic lesion measuring 2x1.5 cm with an eccentric, echogenic foci within the thenar muscles of left hand with surrounding edema, suggestive of intramuscular cysticercosis (Figure 2).

Fig. 2: USG finding. a cystic lesion with an eccentric, echogenic foci within the thenar muscles



The CT scan of the brain and ophthalmic examination were normal. The MRI of left hand showed enhancing thick wall cystic lesion measuring 2x3x1.4 cm, within the thenar muscles with significant surrounding edema and collection suggestive of abscess (Figure 3).

Fig. 3: MRI of left hand shows cystic lesion with eccentric scolex with perilesion oedema



The patient was treated with oral antibiotics, analgesics, albendazole (15 mg/kg/day) for 5 days. After 5 days she underwent surgery for excision of the lesion. Volar incision about 2.5 cm over the swelling on the thenar aspect was given. After soft tissue dissection purulent discharge was observed along with a cyst. the cyst was removed along with the membrane, purulent discharge was cleaned and wound sutured (Figure 4).

Fig. 4: Intraoperative picture showing the cyst along with the membrane after excision

The specimen measuring 2x1.5 cm was sent for histopathologic examination, which was suggestive of cysticersosis cellulose i.e fibrillary stroma with interspersed nuclei and a honeycomb pattern and mixed inflammatory infiltrate.

Albendazole (15 mg/kg/day) was advised after 3 days of steroid and was continued for 28 days. On follow-ups, wound healed uneventfully. On 4th week follow-up, there was no swellings or any other symptoms. There was complete resolution of the swellings at 3 months follow-up.

DISCUSSION

Cysticercosis is a common health concern in many countries worldwide. While humans are the only definitive hosts for T. Solium, pigs on the other hand are the usual intermediate hosts. In human cysticercosis occurs after ingestion of vegetables contaminated by T. solium eggs or undercooked pork infected with cysticerci. 86% of the diagnosed cases are either cerebral or ocular. The remaining 14% are in the subcutaneous, cardiac, pulmonary, muscular, hepatic and oral locations.[4, 5]

Three different types of myocysticercosis have been described.[6] (1) Myalgic type is due to leakage of cyst fluid causing inflammatory pain. (2) Myopathic type in which degeneration of cyst causes chronic minimal leakage from cyst leading to chronic inflammation and mass or abscess like swelling. (3) Pseudo hypertrophy type in which multilocular cyst formation occurs in a group of muscle.[7,8] Our patient was of myopathic type. Most of the patients with

intramuscular cysticercosis are asymptomatic if it is a small lesion or if present in deep muscles. Patients may be symptomatic if the lesion is present more superficially or if there is a superadded infection like in our patient. If symptoms are present there may be swelling, redness, or pain because of death or degeneration of the parasite with leakage of the antigens and cellular response of the body.

The gold standard for diagnosing soft tissue cysticercosis is fine-needle aspiration cytology (FNAC) or fine-needle aspiration biopsy (FNAB), but with the advancement in the imaging techniques like USG and MRI, soft tissue cysticercosis can be easily diagnosed avoiding any invasive diagnostic methods. On high-resolution USG, cysticercosis usually appears as a cyst with an eccentric echogenic scolex similar to findings noticed in our case; but they may also be seen as (i) a cyst without echogenic scolex because it might escape outside the cyst, or because of the partial collapse of the cyst; (ii) a large irregular collection of exudative fluid within the muscle, with the typical cysticercus cyst containing the scolex situated eccentrically within the collection confusing with an intramuscular abscess; (iii) a calcified cyst and (iv) with an inflammatory mass around it.[9] On MRI, cysticercosis lesions appear hyperintense with well-defined edges and a hypointense eccentric nodule within the cyst representing the scolex.[4,6] If the lesions are calcified they may appear as multiple calcifications in the muscles or subcutaneous tissues on x-rays.[4]

Albendazole and praziquantel are the two most commonly used drugs for cysticercosis. To avoid untoward anaphylactic reaction due to the massive release of larval antigen steroids should be added.[5] On clinical presentation, diagnosis of intramuscular cysticercosis is difficult as it may be confused with other soft tissue or cystic lesions like lipoma, fibroma, neurofibroma, intramuscular abscess or hydatid cyst.[10, 11] USG typically shows the daughter cysts, hydatid sand, and floating membranes in hydatid cyst. Further, hydatid cysts are bigger in size compared to cysticercus lesions.

CONCLUSION

Whenever a patient presents with a nodule or swelling, the possibility of intramuscular cysticercosis should be considered in an endemic countries. In doubtful cases, MRI should be considered and invasive techniques such as FNAC or biopsy could be performed for establishing the diagnosis. Treatment for such myocysticercosis is surgical excision.

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