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CYSTICERCOSIS OF FOREARM: A RARE CASE REPORT

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Abstract: *Cysticercosis is a common human infestation in the developing world. Cysticercosis is an infection caused by the larvae of the tapeworm, Taenia solium. Neurocysticercosis is the most common clinical presentation of cysticercal infestation in the human body, but it may be rarely encountered in other body parts like skeletal muscle, subcutaneous tissue and eye. A 17 yr old female presented in the orthopedics department with complains of swelling over the right forearm since 4 months. It was diagnosed as a cysticercosis on MRI and ultrasonography of forearm and it revealed a scolex, the aim of this case report was to document a rare presentation of cysticercosis cyst in forearm. It was treated by albendazole 400mg for twice a day dose daily for 1 month. The patient came for follow up after 6 weeks and no swelling was palpable and MRI and USG reports did not reveal any cystic lesion..*

Introduction

Cysticercosis is a common human infestation in the developing world. It is a parasitic infestation of the body caused by cystodes, the pork tapeworm, *Taenia solium*. Humans may be either definitive hosts (adult tapeworm residing in the gastrointestinal tract) or intermediate hosts (larval stage residing in the tissues) for *Taenia solium*. Humans are the only definitive hosts for *Taenia solium* and pigs are the usual intermediate hosts [1].

Humans become the intermediate hosts when they either consume eggs of *Taenia solium* or directly ingest cysticerci, the larval form of the parasite. Cysticerci are ingested by eating undercooked pork. Eggs are usually ingested by eating contaminated foods, uncooked or inadequately washed raw vegetables or salads or by autoinfection through own feces, if a person is harbouring an egg releasing tapeworm in his intestine. Eggs can survive in the environment for many months [1, 2].

When eggs are ingested by the intermediate host, the larva (oncosphere) is released which penetrates the intestinal wall, reaches the blood stream and gets lodged in various tissues as the encysted larva (cysticercus) which develops in 60-90 days. These cysticerci can survive for months to years in the tissues. These are responsible for the clinical presentations of cysticercosis [1, 2].

Man can become the definitive host when he ingests a tissue containing a cyst and the scolex develops into an adult tapeworm. It is usually single and resides in the upper jejunum for many years. It keeps on releasing proglottids filled with eggs which are excreted in the feces and are infective to man and pigs, but does not lead to clinical cysticercosis in this particular individual [1, 2].

Cysticerci can be found in any part of the body but are commonly detected in the brain and uncommonly in the skeletal muscle, subcutaneous tissue or eyes. Cysticerci have a predilection to involve the

brain. As a result, neurocysticercosis is a common neurological problem in the developing world. The clinical presentation depends on the location, size, number of lesions and the inflammatory response evoked in the body by the parasite [1, 2, 3].

Usually muscle or soft tissue infestation is encountered in association with brain involvement. Isolated soft tissue or muscle involvement with cysticercosis however is not common and only a handful of cases have been reported in literature in which cysticercosis has presented as an isolated swelling in any body part.

We report this case of an uncommon clinical presentation of soft tissue cysticercosis as an isolated painless forearm swelling located in the intermuscular septum.

Case Report

A 17 yr old female presented in orthopaedics outpatient department with complains of swelling in right forearm in distal third of the forearm. Swelling was first noticed by the patient's mother 4 months back when it was a pea size and gradually it progressed to the present size. It was 4 cm proximal to the wrist joint on the volar aspect of forearm. On examination it was non tender, soft to firm, mobile mass, not fixed to the underlying structures or to the overlying skin and there was no induration or redness. There was no history of any swelling in other part of body, visual disturbances, headache, vomiting or seizures.

A plain radiograph showed an oval haziness in the proximal forearm. MRI scan of the left forearm revealed a well-defined ring enhancing lesion in the intermuscular plane, in the flexor compartment of forearm medial aspect. The lesion was oval and well defined measuring approximately 14.7 X 13.7 cm, iso to hypointense on T1W and hyperintense on T2W images. Within this lesion a rounded lesion was present, which was about 1.3 cm in diameter, located eccentrically towards the lateral aspect, hypointense on T1W and hyperintense on T2W images suggestive of a cystic nature. On T2 STIR sequences, a hyperintensity was

noted in the surrounding muscle and fascia, suggesting oedema. The lesion showed a distinct enhancement on contrast administration. The underlying bones and the forearm vessels were normal.

An ultrasonographic examination of the left forearm was also performed, which revealed a well-defined oval lesion with dense internal echoes within the intermuscular plane, showing an eccentrically located clear anechoic cystic lesion with a scolex within. On the basis of MRI and USG findings a diagnosis of soft tissue cysticercosis was made.

All other blood investigations, NCCT brain was normal, USG abdomen, ophthalmological evaluation was also normal including fundal examination.

She was given tab albendazole 400 mg twice daily for a month. This led to decrease in the size of swelling from the next day and she was discharged on it. After 6 weeks of follow up there was no swelling and USG of forearm was also normal.

Discussion

Isolated cysticercal swellings have been reported in literature in muscles of mastication [4, 5, 6], neck [7, 8] tongue [9, 10, 11], trunk [12], internal oblique [13] and biceps brachii muscles [14].

Our case presented as an isolated forearm swelling which also is a rare presentation of soft tissue cysticercosis and has been uncommonly reported in literature.

The usual differential diagnostic considerations for a forearm swelling are lipoma, sarcoma, neurofibroma, soft tissue myxoma, rhabdomyosarcoma etc. Cysticercosis is not often considered as a diagnostic possibility when a patient with forearm swelling presents in the outpatient clinic. Though uncommon, it is important for the treating physician or surgeon to suspect cysticercosis in cases of isolated soft tissue or muscle swellings, especially so in the developing world where Taeniasis is endemic, since it is usually a medically treatable condition and can be reliably diagnosed by noninvasive investigations like

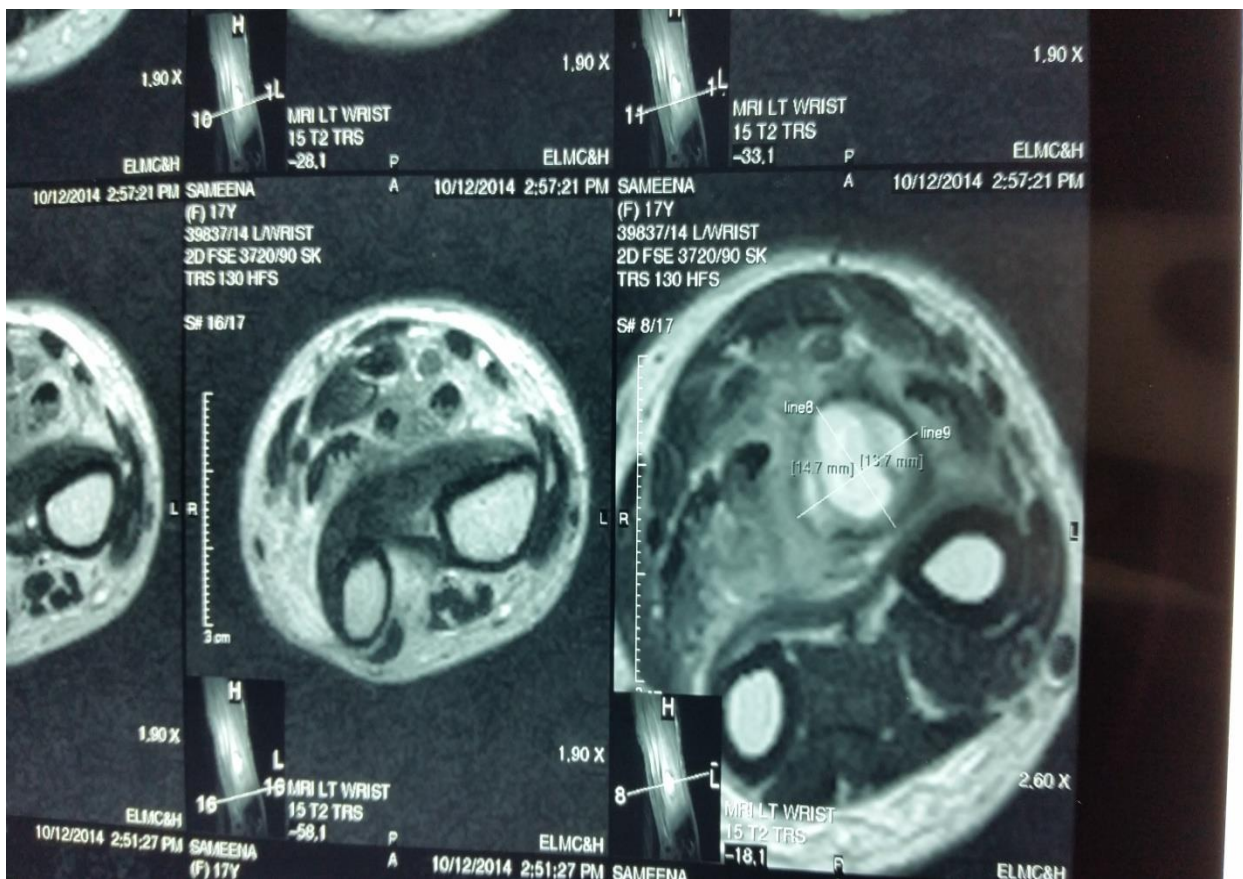
MRI and USG. Cysticercosis is not often considered as a diagnostic possibility when a patient with forearm swelling presents in the outpatient clinic. Though uncommon, it is important for the treating physician or surgeon to suspect cysticercosis in cases of isolated soft tissue or muscle swellings, especially so in the developing world where Taeniasis is endemic, since it is usually a medically treatable condition and can be reliably diagnosed by noninvasive investigations like MRI and USG.

Conclusion

We report this case for the rarity of the clinical presentation of soft tissue cysticercosis as an isolated forearm swelling lodged in the intermuscular plane in the flexor compartment of forearm medial side. We also wish to highlight the facts that cysticercosis should be considered as a differential diagnosis in painless isolated swellings, particularly in endemic areas. Soft tissue cysticercosis can be confidently diagnosed non-invasively on MRI and USG. Medical treatment often cures it, but surgical excision may be required in medically unresponsive swellings.







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