



ISOLATED CYSTICERCOSIS OF THE DIGASTRIC MUSCLE- AN UNUSUAL CASE REPORT


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ABSTRACT

Cysticercosis is a condition which occurs when humans are infested by larvae of *Taenia solium*. It is a cause of increasing health burden in developing countries. Neurocysticercosis is a common clinical presentation of this condition. Here we present a case of an 11 year old patient who presented to us with a neck swelling. On exploration, excision and histopathological examination it was found to be a case of cysticercosis. An elaborate clinical evaluation was done to rule out any other lesion elsewhere in the body. This was hence found to be a case of isolated cysticercosis of the digastric muscle which is hereby reported for its rarity.

Key words: Cysticercosis, Digastric, *Taenia solium*.

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INTRODUCTION

Cysticercosis is a parasitic infection caused by *Taenia solium*, a tapeworm. It is caused by the ingestion of eggs of the parasite through contamination of food by faeces or ingestion of infected pork. Man is the definitive host of the parasite in which it completes its sexual phase [1]. Most common site of infestation is brain, termed as neurocysticercosis, which is most common cause of acquired epilepsy in the Indian subcontinent. Other less common sites of cysticercosis is muscles, eyes, lungs and liver. It can especially present as a diagnostic challenge in a paediatric patient where lymphadenopathy or congenital swellings like branchial cyst or thyroglossal cyst are likely diagnosis in presentation of neck swelling. Here we present a rare case of cysticercosis presenting as a neck swelling with an unusual history.

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Case Report

An 11-year old female presented to ENT OPD with a swelling on left side of the neck for 8-9 months. No history of any fever, throat pain, trauma or swelling on the other parts of the body was there. Patient was a vegetarian. No history of contact with animals was there. On examination there was rounded to oval swelling around 1.5 x 2 cm, firm and non-tender just on the left of the midline. The swelling was mobile in a horizontal direction and had restricted mobility in the vertical direction. It did not move with protrusion of the tongue or with deglutition. There was no other swelling or lymphadenopathy. Complete blood counts were within normal limits. Ultrasonography of the neck was done and it suggested a differential diagnosis of a cystic swelling with a suspicion of cysticercosis. Fine needle aspiration cytology suggested inflammatory cells with no specific diagnosis. An excisional biopsy was planned. The well-defined cyst was found to be present in the posterior belly of the digastric muscle and was removed in toto along with surrounding inflammatory tissue. The specimen was sent for

histopathological examination, which revealed cysticercosis. Stool examination for ova and cyst and blood examination for eosinophilia was within normal limits. Computed Tomographic Scan of the head was done to rule out neurocysticercosis. Antihelminthic medication in the form of Albendazole, 15mg/kg was given in divided doses.

Screening of her family members was done to rule out other cases. Patient was followed up after 3 months and then after 6 months, she was asymptomatic with no recurrence in any other region.

Fig 1. Showing left cervical mass in patient



Fig 2. Showing separated cyst from inflammatory tissue



DISCUSSION

Cysticercosis in children is relatively rare as compared to the adults [2]. The most common site involved is the central nervous system whereas the second most common site is skeletal muscle [2,3]. Symptoms are secondary to mass effects or an allergic response [1,2].

A small number of cases of isolated cysticercosis in neck are reported however all were reported either in adults or were travel or diet related [3, 4]. Cysticercosis is commonly seen in immuno compromised patients. In our case the patient was an 11 year old vegetarian child who had an asymptomatic mass in the upper part of the neck. No travel history was there and on investigating there was no evidence of immuno compromised status.

Ultrasonography can be used as an initial investigation for diagnosing cysticercosis. On ultrasonography cysticercosis appears as round or elliptical, well defined cystic lesion with eccentric hyperechoic area within [5]. Calcified cyst appears as multiple puffed rice lesions on plain X-ray. Every case of cysticercosis should be investigated for the presence of other lesions on other sites. Serology can be done to detect the cysticercal antibodies in the serum or cerebrospinal fluid [6]. Biopsy from the lesion remains the gold-standard in providing a definitive diagnosis.

Normally, humans are the definitive hosts for *Taenia solium*, the life cycle of which begins with ingestion of viable larvae in inadequately cooked pork. Ingested eggs hatch in the small intestine, releasing oncospheres that penetrate the bowel mucosa and enter the bloodstream to travel to various tissues where they develop to form an encysted larval form of *T. solium* known as cysticercosis cellulosae [9]. When the larva dies, it induces an aggressive granulomatous inflammatory response, leading to characteristic organ-specific symptoms.

Only a handful of cases of cysticercosis have been reported in neck region in children. Elhence et al. treated a 7-year-old male child with small lymph node cysticercosis

in posterior triangle with albendazole [5] Timosa *et al.* reported a hazel nut size swelling in the submental region in a nine year old female [6].

In the head and neck site, other than neurocysticercosis, the sites commonly involved are eyes, buccal mucosa, tongue and lips. [10] However cysticercosis of the neck has also been reported in the Mylohyoid, Masseter, Sternocleidomastoid and Omohyoid in a handful of case reports [4,7,10]. As far as our knowledge the case discussed here is probably the first reported case of isolated cysticercosis in the posterior belly of digastric muscle.

Available treatment options for cysticercosis include anti-parasitic therapy, anti-seizure therapy, and surgery [5,7]. Generally, treatment depends upon a number of factors such as location, size and number of cysts. Treatment with anthelmintics has a questionable value but when given, 4 weeks of Praziquantel is said to be the drug of choice. Albendazole is another option [8]. Adjunctive anti-inflammatory drugs, steroids are also given to reduce chances of anaphylactic reaction caused by release of larval antigens.

Clinical diagnosis of isolated neck swelling especially in a child as cysticercosis is extremely challenging as a variety of other cystic lesions are seen in a child. The usual differential diagnosis in such a case is inflammatory lymphadenopathy, cystic hygroma, branchial cyst, thyroglossal duct cyst, lymphangioma, epidermoid cysts, bronchogenic cysts, ranula or arterio-venous malformations. Ultrasonography may help in diagnosis by showing presence of opacities in hypoechoic cystic lesions, however it is not confirmatory. FNAC generally confirms the diagnosis but in a case like ours with significant inflammation in the surrounding tissues even cytology may not be conclusive. Excision biopsy is not only diagnostic in such cases but also therapeutic. Histopathology confirms the diagnosis by showing scolices, hooks, and cyst wall on magnification.

CONCLUSION

To conclude, the possibility of an isolated intramuscular cysticercosis should be considered in areas which are endemic for Taenia. Not only can cysticercosis be seen in the most unusual sites but also in patients who have no history suggestive of exposure to Taenia. Once a confirmatory diagnosis is made the child should be investigated thoroughly for cysts in other sites and an antihelminthic treatment course should be given. All the members of the family should also be screened. Awareness programmes should be given to the general public regarding importance of basic personal hygiene like washing hands and washing raw vegetables thoroughly.

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CONFLICT OF INTEREST

None

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