

A Rare Case of Submental Cysticercosis Presenting As An Abscess

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1. Introduction

A neck swelling has several differential diagnosis depending on the age of the patient, location, duration of symptom, the clinical course and characteristics. Cysticercosis in humans is caused by the larvae of the tapeworm *T. Solium* which is a dead end host.¹*Cysticercus cellulosae* and *Cysticercus racemose* are the two larval forms of *T. solium* in tissues. Infection can be caused by either of the two forms or sometimes with both.²It is one of the most common parasitic diseases worldwide and endemic in developing countries like India.³It occurs in neural and extraneural forms. Extraneural forms commonly involve eyes, skeletal muscles, and subcutaneous tissue, where it presents as single or multiple submucosal/cutaneous firm nodules measuring 1-1.5 cm in size. Head and neck sites most commonly involved are buccal mucosa, tongue, and lips.⁴In neck, there are reports of presentation as swelling in the submandibular region and in posterior triangle of neck.^{5,6}Subcutaneous form of the disease is a rare clinical entity. We report a case of submental cysticercosis presenting as an abscess, diagnosed with high resolution ultrasound findings. The purpose of this case report is to consider cysticercosis as a differential diagnosis while examining patients with soft tissue swelling in the neck apart from being a rare clinical entity.USG is an inexpensive, readily available, and radiation-free modality for the diagnosis of soft tissue cysticercosis.⁷

2. Case Report

A 54 year old woman reported to the hospital with a swelling in the submental region since 4 months associated with pain, throbbing type, continuous, non radiating with no aggravating or relieving factors. Patient had no history of trauma, fever, discharge from the swelling or any other constitutional symptoms.She belonged to lower socio-economic stratum and consumed mixed diet. There was no history of consuming pork.On Physical Examination there was a large,well defined, tender, soft, mobile, cystic swelling 4 x 3 cm in size in the submental region with inflammatory changes of the overlying skin such as erythema and local rise of temperature suggestive of a soft tissue abscess. There was no associated discharge from the swelling. There was no other palpable swelling in the neck or any other part of the body. Rest of the ENT examination was normal.High resolution ultrasound showed a well defined, thin-walled, cystic lesion 4 x 3 x 1.5cm in size with an eccentric, echogenic focus in the subcutaneous plane. The hypoechoic area surrounding the cyst showed significant exudative fluid collection. The adjacent soft tissues were

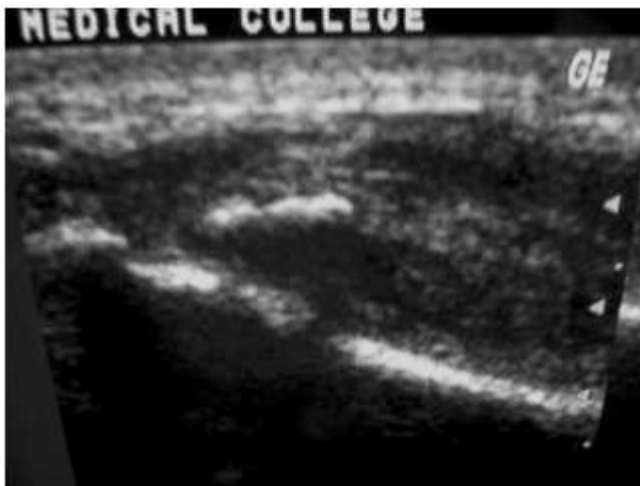
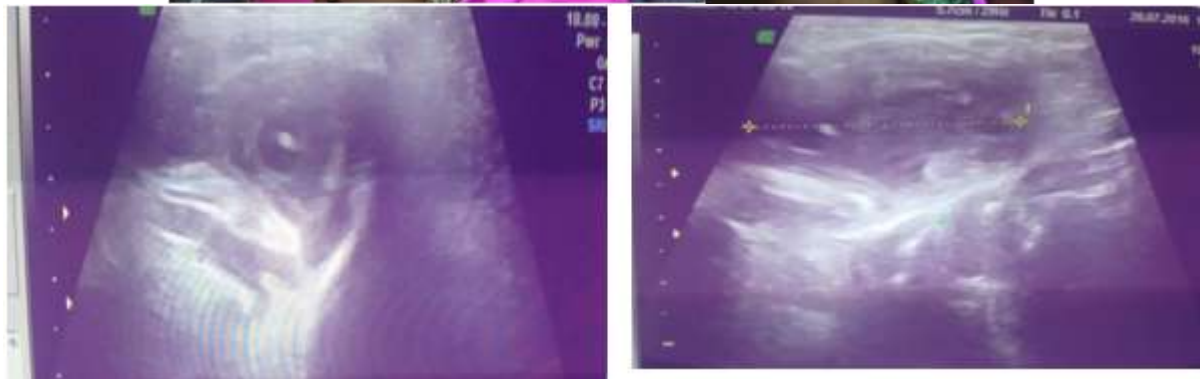
thickened and irregular suggestive of oedema.USG appearance was that of a cyst containing a scolex within and with surrounding abscess. The patient underwent complete excision of the cyst.Grossly, the cystic mass was multiloculated and filled with clear, straw-coloured fluid. Histopathological examination revealed a cystic wall lined by thick cuticle layer,cysticercus cellulose parasite with an extensive mixed inflammatory cell infiltrate in the surrounding tissue. The patient was also started on antihelminthic therapy that is Albendazole 400mg o.d for 7 days (15mg/kgbdwt/day).Repeat ultrasound examination at the end of this management regimen showed complete healing with no evidence of any remnant or recurrent cystic lesion, abscess or edema in the subcutaneous plane.

3. Discussion

Cysticercosis infection in humans is caused by the pork tapeworm *T. solium*. This condition is endemic to countries such as India and African nations⁸ where poor hygiene practices are still common and where pigs are raised as a food source within or adjacent to populated areas. The cases of this potentially fatal infection in the west may be related to immigration and the increase in travel to tropical countries⁹. Normally, humans are the definitive hosts for *T. 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. When the larva dies, it induces an aggressive granulomatous inflammatory response, leading to characteristic organ-specific symptoms. The occurrence of cysts in humans in order of frequency is the central nervous system, the eye, striated muscle, subcutaneous tissue, and rarely, other tissues.¹⁰Soft tissue swelling presents as a painless swelling of long term duration. Generally, radiological studies are mandatory to rule out central nervous system involvement.¹ High-frequency USG has become relatively inexpensive and is a readily available and reliable diagnostic modality for the diagnosis of soft tissue cysticercosis. The most common USG appearance of soft tissue cysticercosis that was encountered in a study was that of an intramuscular abscess with an eccentrically situated typical cyst with a scolex within.This appearance may be due to chronic intermittent leakage of fluid from the cyst due to degeneration of the cyst, resulting in a chronic inflammatory response with a fluid collection around the cyst.¹¹ The second most common appearance was that of a

typical cysticercosis cyst with a scolex within and surrounding mild edema but no abscess. Such patients may present with subcutaneous nodules or pseudohypertrophy of muscles if multiple cysts are present.¹¹ The least common appearance was that of an irregular cyst with no scolex within but with minimal fluid surrounding the cyst on one side indicating leakage of fluid.¹¹ The non-visualization of the scolex may be due to escape of the scolex outside the cyst or partial collapse of the cyst during larval death. Such

patients present with myalgia.¹¹ Definitive diagnosis is by the identification of detached hooklets, scolex and fragments of spiral walls of the cysticercosis.¹ Since it is a common soft tissue infection, clinicians should always consider cysticercosis in the differential diagnosis whenever a patient presents with painful or painless swelling of long duration. USG is the initial and most reliable diagnostic modality for a soft tissue swelling.³



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