CASE REPORT

Oral Cysticercosis – A Case Report

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Abstract

Oral cysticercosis is a rare disease caused by the ingestion of the parasite Cysticercus cellulosae (larval stage of *Taenia solium*), in which man acts as an intermediate host instead of definitive and represents a difficulty in clinical diagnosis. A case of oral cysticercosis in a 16-year-old male, who presented a painless swelling in the dorsal portion of the tongue is reported. An excisional biopsy was performed and histopathological examination revealed a cystic cavity containing the tapeworm.

KEYWORDS: *Taenia solium*; *Cysticercus cellulosae*

Introduction

Cysticercosis presenting as a nodule or mass in the tongue is a very rare occurrence. Only thirty four cases have been reported in the world literature. This is therefore a diagnostic and therapeutic dilemma for clinicians. Solitary nodular swelling over tongue is usually not suspected clinically for cysticercosis. The diagnosis is usually made on histopathological examination. The ensuing clinical disorder is named after the name given to the organism at this larval stage, Cysticercosis cellulosae, Larvae of pork tapeworm Taneia Solium.

Man is considered as the definitive or intermediate host of the adult tapeworm, Taenia solium which causes cysticercosis. This infection in humans resulting from accidental ingestion of the eggs of Taenia solium can involve any site. The most frequent sites of cysticercosis occurrence are subcutaneous layers, brain, muscles, heart, liver, lungs, and peritoneum[1,11].

Oral cysticercosis is uncommon but when present mainly involves the tongue.[3] The definitive host status is established through a cycle that begins with the ingestion of the larva from raw or inadequately cooked pork.[2,3] This cycle ends in the development of an adult tapeworm from larvae which colonize the small intestine (Fig. 1). In contrast, the inadvertent ingestion of Taenia eggs through fecally contaminated vegetables, food or water as well as self-contamination or direct contact with another carrier makes a human the intermediate host.[3] This is a more serious condition because the ingested eggs develop into embryos that can penetrate the intestinal wall and disseminate through vascular or lymphatic circulation to develop into cystic larvae (Cysticercus cellulosae)

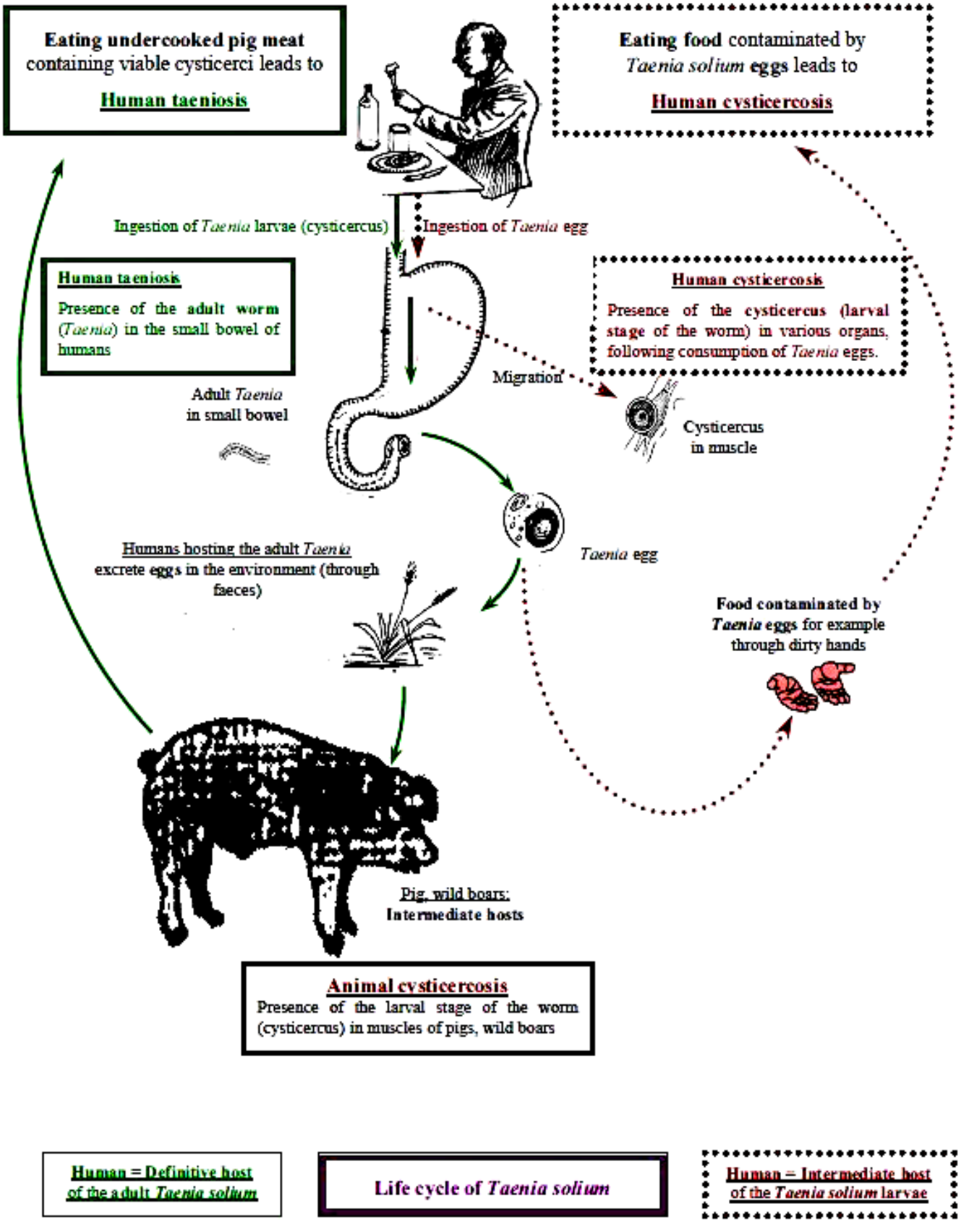

Fig. 1 Life cycle of Taenia Solium

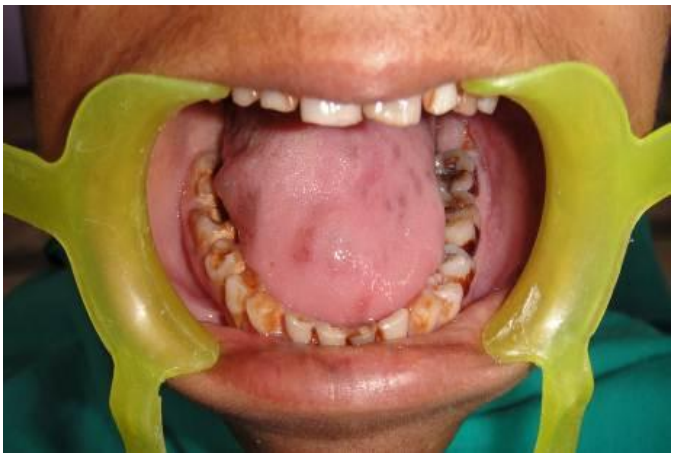

Fig. 2 Intra-oral Photograph

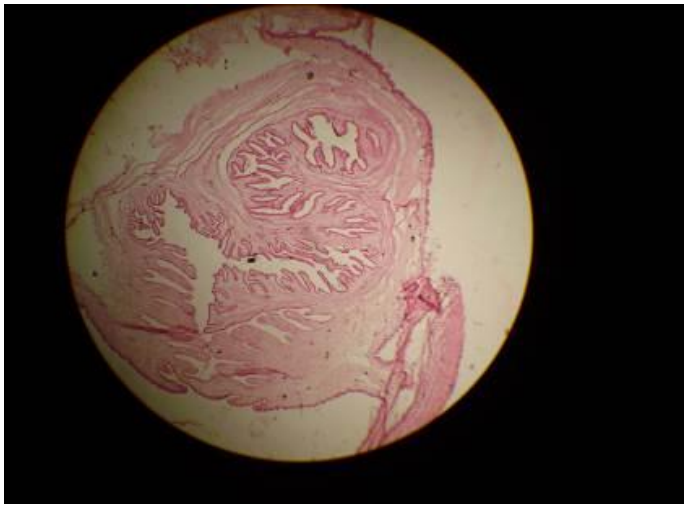

Fig. 4 Microscopic view showing Cysticercus cellulosae, the Taenia solium larval form

CASE REPORT

A 16-year-old boy presented with a swelling over the tongue. It was reported that the lesion was painless and had been present for about eight years, showing a slow rate of growth. Past medical history reveals that he suffered from typhoid fever and also had seizures. Oral examination revealed, that the patient had a nodule on the right anterior two-third and lateral border of the tongue (Fig. 2).

It started as a small well circumscribed elevation over the dorsum of the tongue and gradually increased in size, with no pain, no restriction of the tongue movement and no abnormal sensation, measuring approximately 1.5cm x 2.0cm. (Fig. 3). It was firm on palpation and had an intact overlying mucosa. No palatal involvement was seen and no palpable lymph nodes present in the head and neck region.

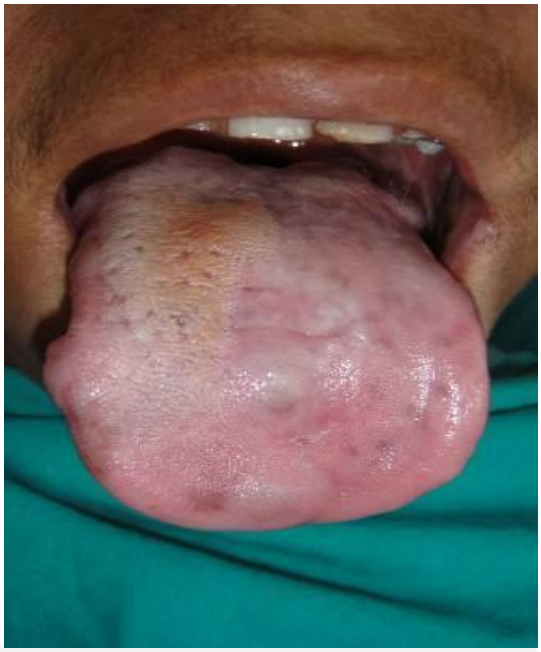

Fig. 3 Nodule present over the Tongue

Differential diagnosis included fibroma, schwannoma, leiomyoma or a dermoid cyst. An excisional biopsy was performed under local anesthesia and submitted for histological examination. During the surgical procedure, the lesion could be seen as encapsulated. Microscopic examination revealed a capsule of fibrous connective tissue surrounding a cystic cavity, which contained the Cysticercus cellulosae, the Taenia solium larval form (Fig. 4).

The capsule showed intense inflammatory infiltrate, consisting mainly of lymphocytes and plasma cells. Groups of eosinophils were seen throughout the connective tissue. The larva was composed of a scolex, where a sucker could be identified, and a duct-like invaginated segment - the caudal end. Both larva and cystic structure were lined by a homogeneous eosinophilic membrane. No areas of dystrophic calcification were present in the specimen. Based on these findings, a diagnosis of cysticercosis was made. After diagnosis, complete blood count and stool examination were performed, and resulted normal. The patient was scheduled for regular check-ups but was subsequently lost to follow-up.

DISCUSSION

Oral cysticercosis is a rare infection with more than 34 cases of oral involvement reported in the English literature.[5] There was no sex or age predilection. Risk factors for human cycticercosis include frequent consumption of pork, poor personal and house hygiene and history of passing tapeworm proglotids feces.[6] Once a person becomes the intermediate host, cysticercosis can develop in various organs and tissues. The tissues most frequently affected are subcutaneous layers, brain,

muscles, heart, liver, lungs and peritoneum.[7] Signs and symptoms of cerebral cysticerci including headaches, acute obstructive hydrocephalus and epileptic seizures depending on the number of invasive oncospheres present and their anatomic location.

The diagnosis aids necessary to confirm the diagnosis of cysticercosis include computerized tomography (CT) and magnetic resonance imaging (MRI) to diagnose cerebral cysticercosis, serology and tissue biopsy.[8] Parasitological examination are more reliable in revealing Taenia solium eggs in the stool sample. The immunodiagnosis of cysticercosis can be achieved in the serum, cerebrospinal fluid and saliva by either enzyme-linked immunosorbent assay (ELISA) or enzyme-linked immunoelectrotransfer bolt (EITB).[9] EITB has a specificity and sensitivity superior to ELISA for the diagnosis of cysticercosis. Traditional treatment of cysticercosis has been palliative before the advent of antihelminthic drugs. Recent clinical trials for the treatment of neurocysticercosis have showed that albendazole and praziquantel can be effective in reducing the number of cerebral lesions as demonstrated by serial MR imaging and CT scans.[8]

Since future occular and cerebral cysticercosis can't be ruled out, these patients should be kept under regular follow-up for any occurrence of symptoms. If any appear, further investigations and appropriate surgical intervention may have to be performed. Intraorally, the favored sites for the development of cysticerci are the lips, cheeks and tonque. Most oral presentations are in the form of painless, well circumscribed, soft swellings that may mimick fluctuant lesions like mucocele.[10]

CONCLUSION

A case of lingual cysticersosis with review, etiopathogenisis, histopatholigical images, diagnostic criteria and treatment is discussed. It suggests the need of considering cysticercosis along with other causes of cystic lesions of the tongue.

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