

Oral cysticercosis: A case report

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استعراض حالة نادرة لمريض أصيب بأفة قموية فوق السطح العلوي للسان نتيجة أكل نوع من الطعام الملوث بالطفيليات. وقد تم إزالة الورم جراحياً وتمت معاينته مخبرياً. حيث كان التشخيص إصابة سطح اللسان بالتلوث بالفطريات.

Oral cysticercosis is a rare disease caused by the ingestion of the parasite *Cysticercus cellulosae*. This parasitic infection rarely involves oral structures. We document the first case of oral cysticercosis mimicking benign tumor of the dorsum of the tongue in Bahrain in a 55-year-old patient, discuss its diagnosis and outline the management.

Introduction

The field of parasitology is becoming increasingly important, since some parasitic infections, once restricted to certain parts of the world are becoming worldwide in their distribution as a result of jet-age travel and military entanglements in countries which are parasite reservoirs.¹

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 including the subcutaneous tissue and the brain, but the most commonly affected site is skeletal muscle.² 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. 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*)?

The authors report here a case of cysticercosis of the tongue, which to our knowledge is the first of its kind in Bahrain.

Case Report

A 55 years old Bahraini man was referred by his

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physician to the Department of Oral & Maxillofacial Surgery, Salmaniya Medical Complex, Bahrain in December 1995 for evaluation of an asymptomatic lump on the dorsum of the tongue of one-year duration (Fig. 1). It started as a small 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. Assessment of his medical history was noncontributory. Oral examination revealed a well circumscribed, painless mobile nodule on the dorsum of the tongue measuring approximately 1.5cm x 2.0cm. It was firm on palpation and had an intact overlying mucosa. No abnormality was detected elsewhere in the oral cavity. Differential diagnosis included fibroma, schwannoma, leiomyoma or a dermoid cyst. Excisional biopsy was performed under general anesthesia and the specimen was submitted for histologic examination.

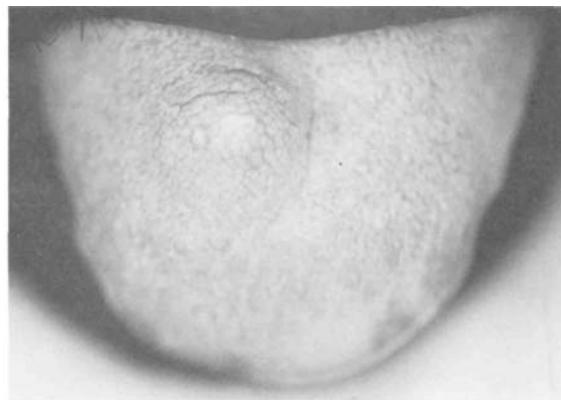


Fig. 1. Cystic swelling on the dorsum of the tongue.

Macroscopic examination revealed an oval nodule measuring 1.5cm x 0.5cm x 1.5cm (Fig. 2).

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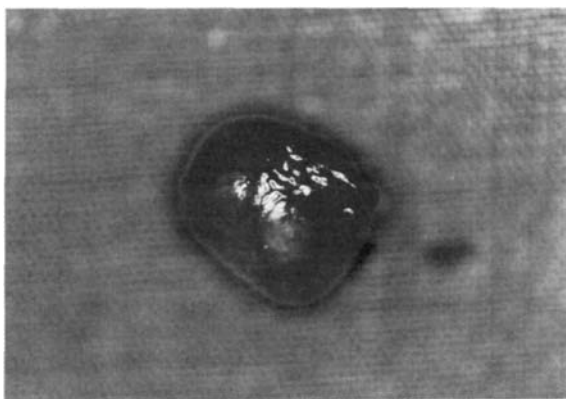


Fig. 2. Excised specimen.

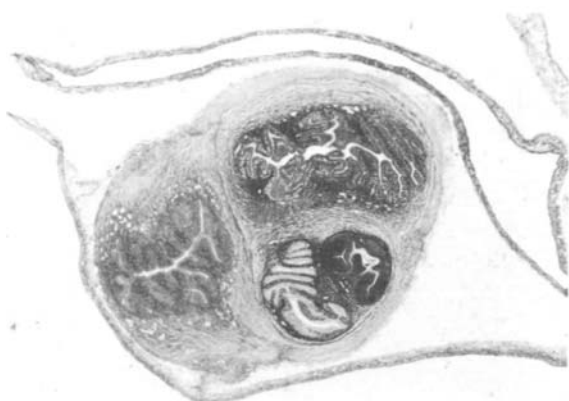


Fig. 3. Histological section shows the cyst of the *Cysticercus cellulosae*. Well-defined host capsule is observed. (Hematoxylin-eosin stain; original magnification 25 x 25)

The specimen was bisected for embedding. On section, the specimen appeared to be cystic containing a brown turbid fluid and a small white nodule. Microscopic examination revealed a thin, dense fibrous connective tissue capsule. An admixture of acute and chronic inflammatory cells and abundant eosinophils in the wall and the adjacent skeletal muscle of the tongue were found. The capsule surrounded a cystic cavity that was lined by a membrane and contained the larval form of *Taenia solium* (*Cysticercus cellulosae*). There was no evidence of calcification or any neoplastic changes (Fig. 3). A diagnosis of cysticercosis of the tongue was established. The patient was referred to an infectious disease specialist for further systemic investigation. Blood, urine and stool studies did not show any active parasitosis. He was not given any antihelminthic drugs because of negative biochemical studies. The patient was scheduled for periodic

examination to monitor his clinical status, which has remained unchanged for 3 years.

Discussion

Oral cysticercosis is a rare infection with more than 30 cases of oral involvement reported in the English literature.⁵ There was no sex or age predilection. Risk factors for human cysticercosis 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 ocular and cerebral cysticercosis cant 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 mimic fluctuant lesions like mucocele.¹⁰

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