CASE REPORT

ORAL CYSTICERCOSIS

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Abstract. Cysticercosis is a common disease in developing countries, but oral lesions caused by this parasitic infestation are rare. We report here a rare case of oral cysticercosis in a 17 year old male who sought treatment for an asymptomatic nodule of the lower lip that had previously been diagnosed as a mucocele.

Keywords: cysticercosis; intermediate host; *Taenia solium*

INTRODUCTION

Cysticercosis is a parasitic infection caused by cysticercus cellulosae, the larval stage of *Taenia solium*. Cysticercosis is caused by accidental ingestion of the eggs of *Taenia solium* through contaminated water, vegetables or by autoinfection caused by egg reflux in the stomach (De Souza *et al*, 2000). Subcutaneous tissue, brain, muscle, heart, liver, lungs and peritoneum are the most frequently affected organs (De Souza *et al*, 2000). Oral cysticercosis is rare condition with only 97 cases reported to date in the dental literature (Nigam *et al*, 2001). Oral cysticercosis usually presents as painless nodules and may be misdiagnosed. Definitive diagnosis is made by surgical excision and histopathologic examination. The present case reveals the importance of histopathologic examination of painless oral nodules that do not resolve. Cysticercosis should be included in the differential diagnosis of oral nodular lesions in endemic areas.

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CASE REPORT

A 17 year old Indian male presented with a nodule in the right lower lip. Clinical examination revealed a well-circumscribed, mobile nodule approximately 1.5 cm in diameter with intact overlying mucosa (Fig 1). The lesion was painless and had been present for about six months, and was slowly growing. The rest of the head and neck examination were normal limits and his past medical history was non-contributory. He was diagnosed as having a mucocele and an excisional biopsy (Fig 2) was carried out under local anesthesia.

Microscopic examination revealed double glycoprotein membrane tissue surrounding a cystic cavity which contained

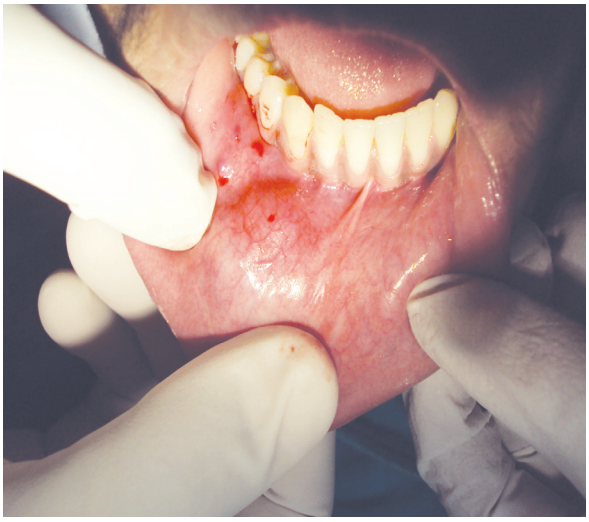

Fig 1–Firm nodule in labial tissue.

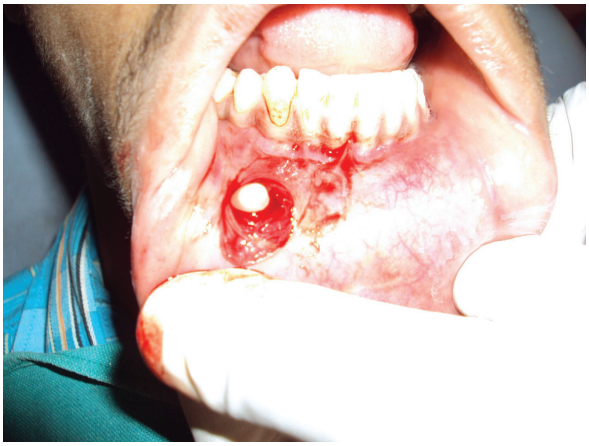

Fig 2–Excisional biopsy exhibiting an encapsulated *Cysticercus* larva.

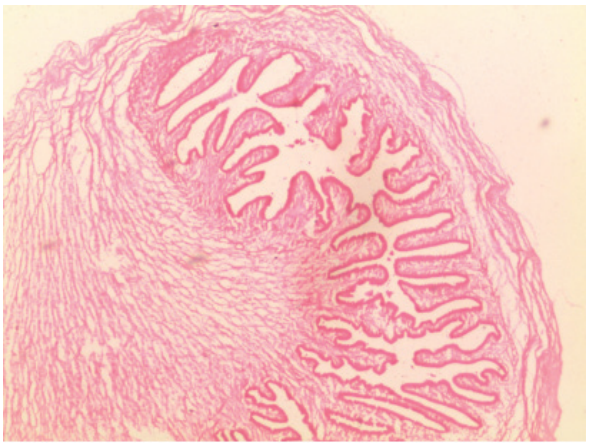

Fig 3–Inverted cephalic part of the *Cysticercus* larva.

Cysticercus cellulosae. The capsule showed intense inflammatory infiltrate, consisting mainly of lymphocytes and plasma cells. The larva was composed of a scolex (Fig 3), where a sucker could be identified, and a duct-like invaginated segment at the caudal end. No areas of dystrophic calcification were present in the specimen. Based on these findings, a diagnosis of cysticercosis was made.

With the diagnosis of cysticercosis established, the patient was referred for medical evaluation which failed to show systemic involvement. In the absence of other symptoms, no additional treatment was prescribed other than periodic follow-ups.

DISCUSSION

Taenia solium is endemic in South America, Asia and Africa. In humans cysticercosis can develop in various organs and tissues. The clinical symptoms depend on the site and the number of cysticerci in the body. Cysticerci are well tolerated in the tissues when they are alive but evoke an inflammatory reaction in the surrounding tissue on death (Garcia *et al*, 2002). During invasion there may be no symptoms or mild muscular pain and fever. Central nervous system involvement may produce headaches, acute obstructive hydrocephalus, and seizures (Garcia *et al*, 2002).

Oral cysticercosis is rare and is often misdiagnosed as a mucocele or a benign tumor of mesenchymal origin, such as a lipoma, fibroma, hemangioma, granular cell tumor,

or a minor salivary gland adenoma (Nigam *et al*, 2001). The most common locations for oral cysticercosis are the tongue, buccal mucosa, lower lip and upper lip (Wilson *et al*, 2007).

Although an excisional biopsy is usually considered the only definitive diagnostic procedure, there are some other diagnostic tools that must be used. Computerized tomography or magnetic resonance imaging are valuable for diagnosing cerebral cysticercosis (Rajshekhar, 1991). Serological investigations, such as enzyme-linked immunosorbent assay (ELISA) or enzyme-linked immunoelectrotransfer blot (EITB), used for detecting antibodies to *T. solium* in the serum and cerebrospinal fluid can confirm the diagnosis, although they are not 100% sensitive (Diaz *et al*, 1992).

The treatment of oral cysticercosis is surgical excision. Praziquantel and albendazole are used to treat cysticercosis, especially in patient with disseminated cysticercosis or where surgical excision is risky or not possible, such as in neurocysticercosis (Del Brutto *et al*, 1993). The oral lesion was the only sign in our patient who was otherwise healthy. An excisional biopsy was carried out, and histological examination showed cysticercus surrounded by inflammatory cells. The patient denied any other symptoms, and the lack of systemic involvement was confirmed by laboratory tests and diagnostic imaging.

The present case reveals the importance of the histopathologic examination, emphasizing the need to include cysticercosis in the differential diagnosis of oral nodular lesions in endemic areas.

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