Cysticercosis of Oral Cavity: Report of a Rare Case

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Cysticercosis is a common disease in developing countries caused by larvae of the parasite Taenia solium. Taenia solium which is also termed as the pork tapeworm or armed tapeworm is distributed all over the world. This parasite completes its life cycle in man and pig. Man harbors the adult worm and serves as the definitive host whereas pig harbors the larvae (cysticerci) and serves as the intermediate host. The infection with cysticerci commonly involves brain, muscle, heart, liver, lungs and peritoneum. Cysticercosis involving the oral cavity is rare. We report here a case of cysticercosis of lower left vestibule, which presented as an asymptomatic solitary nodule in 22-year-old female.

Keywords: Cysticercosis, Cysticercosis cellulosae, Pork tapeworm, Taenia solium

INTRODUCTION

Taenia solium also termed as the pork tapeworm or armed tapeworm and is distributed all over the world.¹ It is a cyclophyllidcestode and belongs to the family of Taeniidae.² This parasite completes its life cycle in man and pig.³ Cysticercus, the larval form of T. solium, resides in muscles and other tissues in pigs that serve as intermediate hosts. Ingestion of inadequately cooked pork containing the larvae leads to the infection in human beings, the definitive host. The larvae get attached to the wall of the small intestine and develop into adult tapeworms that release proglottids containing eggs.³ Cysticercosis is common in areas of inadequate sanitation, and the infection is acquired by ingestion of tapeworm eggs through contaminated food and water or dirty hands. Latin America, Southern Africa, India, Southeast Asia and Eastern Europe are the most frequent locations of its occurrence.⁴ Subcutaneous tissue, brain, muscle, heart, liver, lungs and peritoneum are the most frequently affected organs. Cysticercosis presenting in the oral cavity is a rare entity.⁵ Prevalence of oral cysticercosis is found to be 4.1% and its common locations are tongue followed by lips and buccal mucosa.⁶ Lesions of oral cysticercosis usually present as painless nodule and definitive diagnosis is based on the surgical excision and histopathological examination.⁷ As oral cysticercosis is a rare entity, the diagnosis is not done pre-operatively, and differential diagnosis varies with the intraoral site of the lesion.⁷ Here, we report a case of cysticercosis in a 22-year-old female patient who presented with an asymptomatic solitary nodule in lower left vestibule.

CASE REPORT

A 22-year-old female patient reported to the Department of Oral and Maxillofacial Surgery with a chief complaint of painless swelling in her left side of the face since 6 months. Intraoral examination revealed a well circumscribed swelling of approximately 1.5 cm × 1.0 cm in dimension with intact overlying mucosa in the lower left vestibule of canine and premolar region. On palpation, it was firm, smooth and non-tender. No palpable lymphnode present. A provisional diagnosis of the benign cystic lesion was given. Surgical excision of the entire lesion was done, and the specimen was sent for histopathological examination.

Histopathological examination revealed a parasite consisting of the cuticle, aggregated subcuticular cells and smooth muscle fibers (Figure 1). The presence of fibromuscular tissue with mixed inflammatory cell infiltrate with many eosinophils and lymphocytes were seen (Figure 2). Based on the characteristic microscopic findings final diagnosis of cysticercosis of the oral cavity was given.

DISCUSSION

Cysticercosis is a major public health problem in developing countries and the most common parasitic infection...
Once a human becomes the host of cysticercus cellulosae, cysticercosis can develop in various organs and tissues. The most serious involvement is that of the central nervous system presenting as neurocysticercosis, followed by ocular involvement.

Generalized symptoms include headache, fever, and myalgia. Patients with neurocysticercosis can present with seizures, increased intracranial pressure, obstructive hydrocephalus, meningitis and mental disorders. Neurocysticercosis is found to be the most common cause of seizures or epilepsy in developing countries.

In spite of the abundance of muscular tissue in oral and maxillofacial region, this is not a frequent site for the occurrence of cysticercosis. Only 97 cases of oral cysticercosis are reported in the literature.

Usually, the patient presents with swelling. Although pain is not a frequent feature, the swelling may be associated with pain in secondarily infected cases. This case presented with painless solitary swelling in the canine premolar vestibular region and was not associated with any other symptoms or discomfort.

Differential diagnosis of the oral lesion depends on the site of involvement. In this case, mucocele, lymphangioma, minor salivary gland tumor, fibroma, and lipoma were considered.

Histopathologically, cysticercus cellulosae shows a dense fibrous outer capsule which is derived from host tissue. This contains a fairly dense inflammatory infiltrate predominantly of lymphocytes, plasma cells, and histiocytes. On the inner aspect of this fibrous capsule, dense aggregation of eosinophils and neutrophils can be seen. Few foci of dystrophic calcification may be present in the capsule. Within fibrous capsule, a delicate double layered membrane consisting of outer a cellular hyaline eosinophilic layer and inner sparsely cellular layer can be seen. This membrane has a loose attachment to the fibrous capsule and is readily torn away from it. The cyst lies within the membrane and contains cysticercus cellulosae.

Radiologic imaging and serology can be used as adjuvant diagnostic aids. Computed tomography and magnetic resonance imaging are very effective in the detection of cysticerci. Fine-needle aspiration cytology which identifies the tegument layer of larvae can also serve as an adjuvant diagnostic aid.

Oral cysticercosis cases should be carefully and thoroughly investigated for multisystem involvement, mainly the brain and ocular lesions.
Treatment of choice for oral cysticercosis is surgical excision. Antihelmenthic drugs such as praziquantel and albendazole are used for treatment where surgical treatment is risky or not possible, as in cases of neurocysticercosis. Periodic follow-up should be done to rule out further systemic involvement.5

CONCLUSION

Cysticercosis, the parasitic infection caused by larvae of *T. solium* affects subcutaneous tissue, brain, muscle, heart, liver, and peritoneum. Although the cases of oral cysticercosis are rare, there are few cases reported in the literature so far. In this case, diagnosis of oral cysticercosis was given only after histopathological examination because of its rare occurrence and nonspecific clinical presentation. The most common sequelae of cysticercosis are neurocysticercosis, which is one of the common causes of epilepsy in developing countries. This characteristic feature makes it important to follow-up the patient with cysticercosis to rule out the brain involvement.

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