ORAL CYSTICERCOSIS - A RARE CASE REPORT

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ABSTRACT

A 23 year old male presented with a painless solitary nodular swelling near left lateral border of the tongue of 4 years duration. Fine needle aspiration cytology revealed a benign cystic lesion. Excisional biopsy was done for histopathological examination which revealed larvae of the pork tapeworm (cysticercus). Cysticercus normally dwells in the organs of pigs and infection of human tissues is much more unusual. Oral cysticercosis, especially the involvement of tongue is rare in humans.

Keywords: Lingual, Cysticercosis, Oral, Tongue, Taenia, Cellulosae.

INTRODUCTION

Cysticercosis is caused by the larval stage of Taenia Solium. Taenia solium has a complex 2-host life cycle. It is a hermaphrodite cestode that inhabits the human small intestine of those individuals who have ingested raw or inadequately cooked pork infected with viable larvae (cysticerci). The scolex of the larva evaginates from the cyst inside the small intestine and attaches to the bowel wall. After 3 months, the adult tapeworm develops within its human definitive host, producing a condition known as taeniasis and thereafter begins forming proglottids, which are frequently detached from the distal end of the worm and are excreted in the feces. Each proglottid contains 50,000 to 60,000 fertile eggs, which can remain viable for a longer time in water, soil, and vegetation. Cysticercosis develops when these eggs are ingested by humans and pigs (intermediate host), and oncospheres (embryos) are liberated by the action of gastric acid and intestinal fluids. These embryos actively cross the bowel wall, enter the blood stream and infest in various other tissues and organs where they develop into larval vesicles or cysticerci.

In humans, this potentially fatal parasitic disease mainly occurs as a result of the ingestion of contaminated food or polluted drinking water, but it may also develop by feco-oral contamination in tapeworm carriers. Although the disease is more common in endemic areas like Latin America, Asia, Africa and Easter Europe, its incidence is also increasing in developed countries as a result of migration of infected persons and frequent travel to and from endemic areas. In humans, cysticerci are most commonly located within the central nervous system (CNS), producing a clinical disorder known as neuro-cysticercosis (NCC), but it may also localize primarily in a variety of tissues, including muscle, heart, eyes, and skin. Although oral involvement by cysticercosis is common in swine, this location is very rare in humans. We hereby present a case of cysticercosis on the tongue of an Indian male.

CASE REPORT

A 23 year old male presented with a swelling on the right lateral border of the tongue. The patient reported that the lesion was present since 4 years
with no associated pain. Intra oral examination revealed that the lesion was spherical in shape, 2x2 cm in size, firm, compressible, smooth surfaced and mobile within the soft tissue of the tongue. A clinical differential diagnosis of mucocele, sialocyst, lymphangioma and minor salivary gland tumour was given. Patient was advised for fine needle aspiration cytology. Aspirate was clear colorless fluid. Microscopic examination of the fine needle aspiration cytology showed a refractile structure on a thin proteinaceous background (Figure 1). Report was dispatched as benign cystic lesion. Following which, the lesion was surgically excised under local anaesthesia (figure 2).

Histopathology of the excised tissue revealed a thin capsule of fibrous connective tissue surrounding a cystic cavity, which contained cysticercosis cellulosae (larval form of Taenia solium). The larva composed of a duct like tubal segments that was lined by a homogeneous membrane (Figure 3). Cyst wall and outer fibrous tissue (figure 4) was infiltrated with numerous inflammatory cells, macrophages and few foreign body type giant cells (Figure 5). Based on these findings, a diagnosis of cysticercosis was made. A complete blood and stool examination was performed, results of which were normal.

DISCUSSION

Cysticerci are uncommon in the oral cavity of humans where they appear as cystic nodules that may rupture and heal uneventfully.4 So far 133 cases have been reported globally in English literature.5 In swine this location is common. Literature says that a high muscular activity and metabolic rate of oral tissues in humans might act against the lodgment and development of cysticercosis in this location.5 According to literature, oral cysticerci usually elicit a clinical diagnosis of mucocele, or a benign tumour of mesenchymal origin, such as lipoma, fibroma, hemangioma, granular cell tumour, or a minor salivary gland tumour.6,7 Routine sections stained with hematoxylin and eosin may be all that is required for diagnosis, although in later stages only an inflammatory response to dead larvae may be seen. Fine needle aspiration cytology (FNAC) can also aid in diagnosis but it is very difficult to confirm the diagnosis.8 Studies have demonstrated that parts of the parasite have been identified in 45% to 100% of the aspirates, particularly when the aspirated material showed a speck of pearly white content that was confirmed to be the larva in acute and chronic inflammatory background by microscopic examination.9,10 In our case, the aspirate revealed a refractile structure on a thin proteinaceous background suspicious of parasite.

Histopathological examination makes up a diagnosis of cysticercosis by the detection of a cystic space containing the cysticercus cellulosae. The scolex has four suckers and a double crown of rostellar hooklets.11 A duct-like invaginated segment, lined by a homogeneous membrane, composes the caudal end. The eosinophilic membrane that lines the capsule is double-layered, consisting of an outer acellular and an inner sparsely cellular layer. Cysticerci may remain alive for many years; slowly, it elicits a granulomatous reaction that is characterized by macrophages, epithelioid cells and foreign body giant cells, leading to fibrosis of the supporting stroma. Within a period of three to five years, the larva dies and the cyst undergoes calcification.12 Laboratory findings in patients with cysticercosis reveal eosinophilia, raised immunoglobulin E (IgE), and most importantly, a positive enzyme linked immunosorbent assay (ELISA) test against cysticercus cellulosae. Anti cysticercus cellulosae antibodies are important in the immunodiagnosis of the disease. This procedure may be performed in serum or cerebrospinal fluid, the latter is considered a diagnostic test for neurocysticercosis.13 Drugs as albendazole and praziquantel are potent antihelminthics used in the treatment of cysticercosis14, replacing niclosamide, which was
the drug of choice for the treatment of the disease for a long time.

CONCLUSION
In summary, we have showed the clinical and histopathological findings in a man with oral cysticercosis, emphasizing the need to consider cysticercosis along with other causes of cystic lesions, particularly in areas with a high incidence of this condition.

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REFERENCES
Figure 1: Photomicrograph shows a refractile structure on a pink proteinaceous background

Figure 2: surgical excision of the lingual cyst

Figure 3: Photomicrograph showing a duct like invagination segment of cysticercosis cellulosae. (H&E X4)

Figure 4: Photomicrograph showing the cyst wall and outer fibrous tissue. (H&E X10)
Figure 5: Photomicrograph showing the cyst wall and fibrous tissue infiltrated with numerous inflammatory cells, macrophages and foreign body type giant cells. (H&E X40)