Cysticercosis in labial tissue. Case report

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Abstract

Cysticercosis is a condition in which a human acts as the intermediate host of Taenia solium, a pork tapeworm. The larvae infestation sites frequently include cerebral tissue, ocular organs, and muscles. The present case report describes a rare incidence of cysticercosis in the oral region.

Key words: Taenia solium, cysticercosis, taeniasis, tapeworm.

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Introduction

The life cycle of platyhelminthes is characterized by different stages of development and growth requiring various kinds of hosts that can appropriately harbour the eggs, the oncospheres, the larva, and the adults. Usually when the larvae infest the intermediate host tissue a pathological condition called cysticercosis results. When ingested by the definitive host these larvae complete their life cycle by developing into adult worms.

The larvae of Taenia solium, a pork tapeworm, normally infest swine tissue. In the endemic areas which are Mexico, South America, Eastern Europe, India, and the northern part of Asia, cysticercosis in pigs is caused by contamination of swine food by human faeces.1 The proglottids containing the oncospheres, when ingested, develop into larvae in the intestine of the animal. The larvae migrate through the intestinal wall into the circulation and then localize in various tissues and organs.

Ingested by humans, the definitive host, these cysticerci develop into adult worms. Attaching to the intestinal mucosa, the parasites release proglottids containing eggs or oncospheres. Once they are outside the human body and later enter the intermediate host, the life cycle of the worm begins again.

Apart from being the definitive host, humans can also act as the intermediate host of Taenia solium. By consumption of food or water contaminated with eggs or proglottids which subsequently release embryos in the duodenum, the larvae of the worm can settle directly in the human intestine.2,3 Also, regurgitation of oncospheres from the intestine into the stomach is hypothesized as a mean of autoinfection.2,3 Cysticercosis in humans is common in cerebral tissue, subcutaneous tissue, muscles, and the eye.1,2 The pathological conditions manifested are usually the functional disturbance of the infected tissue such as seizure and visual impairment.2,4 Cysticercosis in the oral tissue such as the tongue, labial mucosa, buccal mucosa, and floor of the mouth have also been reported.1,5,6 However, the incidence is very rare and a correct and precise clinical diagnosis is infrequently established. Usually the disease is confused with other benign swellings.

Case report

The patient, a 30 year old Asian man, presented with a chief complaint of painless swelling in the left labial mucosa of the lower lip. Clinical examination revealed a well-defined mass 15×20 mm in size. The lesion was not sensitive to palpation. No discharge or redness was detected. The patient’s physical status was good and his medical history investigation was non-contributory. He had not taken any medication. He stated that the swelling was initially noticed about nine to ten years earlier, however, it was very small. Since it had been asymptomatic he neglected to have the lesion examined or treated until it became gradually larger. From the clinical appearance a diagnosis of mucocele or fibroma was made and the patient was scheduled for surgical enucleation of the lesion under local anaesthesia.

Upon removal the lesion appeared to be fibrotic and consisted of multiple masses of various sizes. The removed tissue was delivered to the laboratory and processed for routine histological examination and final microscopic diagnosis. Healing of the
characteristic history and symptoms such as seizure, skin swellings, headache, and visual disturbances. In endemic areas the disease is relatively easy to recognize. Diagnosis can be done precisely with various serological laboratory methods. Also, modern radiological modalities such as computed tomography (CT) and magnetic resonance imaging (MRI) are very effective in detection of cysticerci. However, if an uncommon organ is involved or atypical symptoms are developed the disease might be overlooked. Also, in non-endemic areas or in an unsusceptible population the correct diagnosis may be difficult to establish.

In this case report the importance of histological examination of the excised tissue is emphasized since neither the clinical examination nor the history suggested a diagnosis other than a benign lesion. Also, the mode of infection was relatively obscure. The patient lived in an area where public sanitation is considerably well-maintained. He did not indicate possible contraction of the parasite through ingestion of uncooked or contaminated food. However, person to person or indigenous transmission of the disease was suspected since there are studies reporting cases of cysterciosis in people travelling to endemic areas and in populations containing emigrants from such places.

Discussion

Cysticercosis or taeniasis is normally included in the differential diagnosis in patients manifesting a surgical site was uneventful, but indentation of the lower lip was evident due to the large extent of excised tissue (Fig. 1, 2).

Gross examination of the biopsy specimen revealed three separate pieces of tissue, summed up to $15 \times 20 \times 20$ mm. One of these was a spherical opalescent cyst, 5 mm in diameter, with a clear fluid content and a parasitic larva. The other two pieces were rubbery, irregular shaped, greyish pink tissue. Microscopic examination of the cyst showed an inverted cephalic part of the cysticercus (Fig. 3). Oral mucosa showing granulomatous reaction with marked eosinophilic infiltration was also included in the prepared sections (Fig. 4).

With the final diagnosis of cysticercosis established, the patient was referred for medical investigation and treatment. The cerebral examination with computed tomography (CT) revealed no abnormal density lesion. Since other relevant symptoms were absent, no medication or further treatment was indicated. The patient was informed about the nature of the disease and regular periodic check-ups were suggested.

Fig. 1.–Healing of the surgical site 2 weeks post-operation.

Fig. 2.–Indentation of the left side of lower lip resulting from enucleation of the lesion.

Fig. 3.–Inverted cephalic part of the cysticercus. H&E. ×40.

Fig. 4.–Eosinophilic infiltration in oral mucosa around the parasite. H&E. ×200.
In the present case since the patient had not developed related symptoms, no medical treatment except periodic follow-up was prescribed. Also, medical examination after excision of the oral lesion failed to reveal any presence of the parasite. Had the patient been symptomatic, medication would have been indicated. Praziquantel is reportedly effective and is considered the drug of choice in treatment of the disease.\textsuperscript{11,13}

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