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Oral cysticercosis-a rare presentation

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ABSTRACT

Cysticercosis is a condition that occurs when man is infected with larvae of *Taenia solium*. Oral cysticercosis is a rare event, and it represents difficulty in clinical diagnosis. A case of oral cysticercosis in 11 year old girl is presented which complained of painless swelling for 6 months. A FNAC was performed which revealed bluish pink fibrillary material and interspersed nuclei and fragments of wall of larvae. Patient was treated with antihelminthic.

1. Introduction

Pork tapeworm is endemic in many parts of world, including Russia, China, India, Pakistan, Philippines, Indonesia and Mexico. Cysticercocsis only rarely involves oral cavity. In the oral region, the tongue is the most common site to be involved followed by upper and lower lip, oral mucosa, submandibular and submental region[1]. We report a case of cysticercosis below lower lip in an 11 year old girl which was diagnosed by aspiration cytology and resolved on taking albendazole.

2. Case report

A healthy 11 year old girl attended the oral surgery OPD with the complaint of painless swelling measuring 1 cm×1 cm below left lower lip. The swelling was present for 6 months; was not increasing or decreasing in size and was painless. There were no palpable cervical lymph nodes. The patient had no headaches, seizures or any focal neurological deficits. There was no family history of similar complains in other family members. Patient was a vegetarian. Apart from history of typhoid one and half year back, there was no significant past history. A provisional diagnosis of cystic lesion was made and patient was referred for fine needle aspiration ctology(FNAC). On examination, swelling was soft, with well defined borders; mobile and painless. Overlying mucosa was normal. FNAC was done from outer aspect. It yielded clear fluid. Romanwasky stained smears were examined and revealed bluish pink fibrillary material with interspersed small nuclei, fragments of wall or tegument (Figure 1). It was not associated with any inflammatory reaction. Complete hemogram and stool examination were within normal limits. Patient was treated with albendazole for 21 days and the swelling resolved.

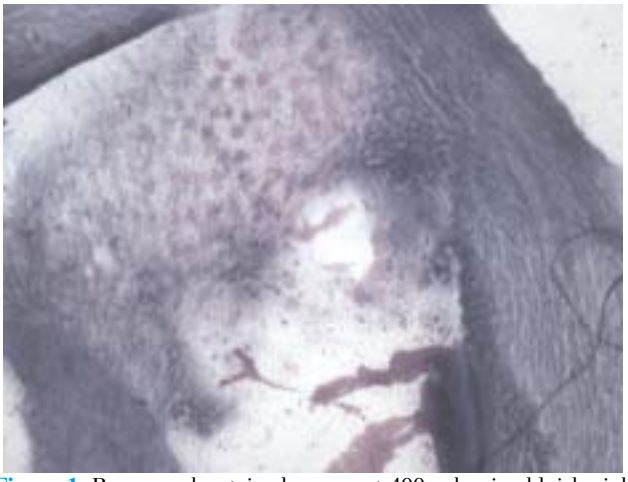

Figure 1. Romanwasky stained smears at 400× showing bluish pink fibrillary material with interspersed small nuclei.

3. Discussion

Cysticercosis is a potentially fatal parasitic infestation that rarely involves oral region in humans. It is caused by larval

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form of *Taenia solium(T. solium)*; cysticercus cellulosae. Skeletal muscle, brain and eye are the most commonly affected sites. The pork tapeworm can cause two distinct form of infection in humans; adult tapeworm in the intestine or the larval form in the tissues (cysticercosis). Human are the only definitive host for *T. solium*; pigs and wild hogs are intermediate host. The adult tapeworm resides in upper jejunum. Intestinal infection may be asymptomatic. In cysticercosis clinical manifestation are variable. Cysticerci can be found anywhere in the body but are most commonly detected in the brain, CSF, skeletal muscle, subcutaneous tissue and eye[2].

FNAC is useful in the diagnosis of parasitic infections. For definitive diagnosis of cysticercosis cellulose, hooklets and fragments of wall are required apart from the inflammation. So, careful search is required in presence of dense inflammation by eosinophils and histiocytes. The tissue response to cysticercus has been divided into five stages. The initial response comprises macrophages and lymphocytes. Afterwards, a well-formed layer of palisading histiocytes is seen. Eosinophils appear as the inflammatory response achieves chronicity. Later on, polymorphs invade the necrotizing parasite. However, most of these parasites often do not invoke any host tissue response as the parasites produce taeniaestatin and other poorly defined molecules that interfere with the cellular immune response. The factors responsible for the parasite degeneration are not known. One of the reasons considered is the appearance of various HLA molecules on the surface of the parasite. Certain physical factors such as the firm non-expansile nature of the host tissue may contribute in limiting the growth of the parasite and initiating the host inflammatory response[3].

Adhikari and workers noted tegument layer of bladder wall, some fine hair like processes, and few subcuticular cell with small pyknotic nucleus in some cases. In their study of 10 cases they did not find hooklets or scolices. However few cases showed epitheloid cells, multinucleated giant cells and mixed inflammatory cell infiltrate[4].

Oral cysticercosis is rare and usually manifests as painless, nodular masses. Most of the cases reported in the literature have involved such painless, nodular masses. Except for a few cases in which fine needle aspiration cytology was performed pre-operatively, almost all the reported lesions have been diagnosed as cysticercosis only after histopathological examination. Cysticercosis is rarely included in the pre-operative differential diagnosis, due to the relative rarity of the condition, inadequate knowledge of parasitic infections and their oral manifestations, and, most importantly, due to negligence when taking the medical history[5].

The most common complaint by patients is swelling. Pain is not a frequent feature unless secondarily infected. Lesions on the tongue could interfere with movement, causing discomfort during speaking and eating. Most oral presentations are in the form of painless, well-circumscribed, soft swellings that may mimic fluctuant lesions like mucoceles[6].

The differential diagnosis of oral cysticercosis depends on the location of the lesion. Nodules on the lips and cheeks may be considered as fibroma, lipoma, mucocele, pyogenic granuloma or pleomorphic adenoma. Nodules on the tongue may be considered as fibroma, pyogenic granuloma, granular cell myoblastoma or rhabdomyoma[7]. In spite of abundance of muscular tissue in the oral and maxillofacial region, this is not the frequent site of occurrence of cysticercosis[8]. A consensus conference has delineated absolute, major and minor criteria for diagnosis. Diagnostic certainty is possible only with demonstration of parasite either histologically, or by fundoscopic visualization in eye, or by neuroimaging demonstrating cystic lesions with characteristic scolex. In most cases diagnostic certainty is not possible; instead a clinical diagnosis is made on the basis of a combination of clinical presentation, radiographic studies, serologic tests and exposure history[2]. Oral cysticercosis in most previously published literature is by histopathological examination of an excised specimen. However, FNAC is also a well accepted procedure for reliable and quick preoperative diagnosis of cysticercosis[1]. Saran et al proposed the use of fine needle aspiration cytology, which identifies the tegument layer of the larvae[9]. Every case of cysticercosis should be investigated thoroughly to determine the involvement of multiple foci since there is a high index of such features[8].

The major means of preventing infection is the adequate cooking of pork. The prevention of cysticercosis involves minimizing the opportunities for ingestion of fecally derived eggs by means of good personal hygiene, effective fecal disposal, and treatment and prevention of human intestinal infections[10].

Drugs such as praziquantel and albendazole are potent antihelminthics used in treatment of cysticercosis replacing niclosamide. It is important to consider the diagnosis of cysticercosis in oral solitary nodular lesions presenting in patients living in endemic areas. This case emphasizes the role of cytology in the detection of a disease that can have more serious involvement.

Conflict of interest statement

We declare that we have no conflict of interest.

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