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Case Report

Cysticercosis Resembling Cervical Lymphadenopathy, A Rare Presentation: A Case Report Authors

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Abstract

Cysticercosis is one of the commonest human parasitic infections caused by Cysticercus cellulose, the larval stage (cysticerci) of the pork tapeworm Taenia Solium which is normally found in the subcutaneous tissue, central nervous system, striated muscles, eyes, and rarely other body tissues. We report a case of cysticercosis presenting as a soft cystic mass in the right side of the neck region in a middle-aged woman The lesion was surgically excised and the diagnosis was confirmed by microscopic examination. She was subsequently placed on antiparasitic medications. Human cysticercosis can result in devastating effects on human health especially among farming communities in developing countries with poor sanitation. The prevention of cysticercosis includes: good proper hygiene, effective fecal disposal, and vaccines to prevent porcine cysticercosis.

Keywords: Cysticercosis; Cysticercus cellulose; Neurocysticercosis; Lymphadenopathy; Rhabdomyoma

Introduction

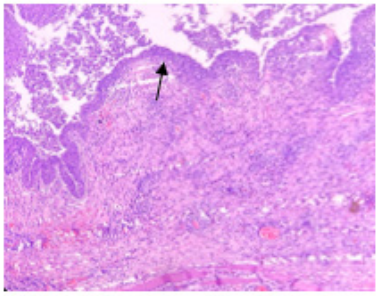
Cysticercosis is one of the earliest and most common human parasitic infections caused by ingestion of the larval cysts of the human cestode Taenia solium (Cysticercus cellulose) [1]. It constitutes a major public health problem, especially in developing countries where it is acquired by accidental ingestion of food, water, vegetables, uncooked pork or open-air feces contamination by T. Solium eggs [1,2]. This disease condition is endemic in regions with poor hygiene, low socio-economic conditions, and uncontrolled pig breeding [2]. The larval stage of *T. solium* is normally found in the subcutaneous tissue, central nervous system, striated muscle, eye, heart, liver, lungs and peritoneum. In the subcutaneous tissue, eye, and striated muscle it may usually presents as a single or multiple submucosal or subcutaneous firm nodules [3]. The most common cause of cervical lymphadenopathy from our location according to a study done is South West Nigeria include non - specific hyperplasia, tumor metastasis and non-Hodgkin's lymphoma [4]. Neck cysticercosis presenting as cervical swelling mimicking cervical lymphadenopathy is a rare. We report this case as a rare presentation of cysticercosis in the neck resembling lymphadenopathy.

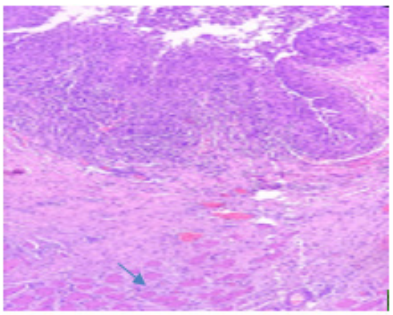
Case Report

A 45-year-old woman who presented with a right sided neck swelling of 2 months duration. Swelling was insidious at onset. It was initially noticed as a pain on the right side of the neck. It was initially small in size but has progressed to 3.0 x 2.0cm and has remained painless. There was no history of similar swelling in other parts of her body. There was no significant past medical history.

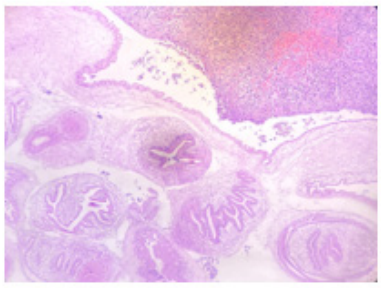
Clinical examination revealed a 3.0 x 2.0cm slippery lump on the right side of her neck. This lump was not attached to the skin. It was not tender on palpation and there was no differential warmth. The lump consistency was soft and fluctuation was absent. The differential diagnosis entertained were a lipoma and an enlarged lymph node.

She was subsequently counselled about her findings and advised to do routine investigatory workup which were all within normal limits. The swelling was enucleated under local anesthesia and submitted to histopathological examination. Intraoperative findings were an intramuscular right sided neck cystic lesion measuring 2.0 x 2.0cm. There were no postoperative complications. Histopathology report was that of a cystic cavity containing the larval form of a structure reminiscence of the larva stage of cestode, Taenia Solium. This larva form is composed of duct-like invaginations lined by a double layer of eosinophilic membrane. The scolex with the birefringent hook lets contain the pairs of suckers and it shows a single invagination. The wall of the cysts as well as the adjoining striated muscles shows a dense infiltrate of mixed inflammatory cells including foreign body giant cells. There are no atypical cells present (Figures 1-4).





Figures 1 and 2: Photomicrograph of cyst wall with chronic inflammation (black arrow), striated muscle (blue arrow).



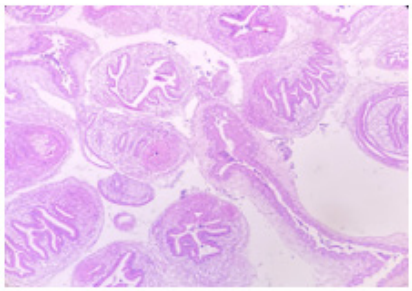


Figure 3 and 4: Photomicrograph (10×) shows larva-cysticercosis cellulose.

Discussion

T. Solium is endemic in many countries of Latin America, Eastern Europe, Southeast Asia, India, and sub-Saharan Africa [5]. Human infections occur through the fecal-oral route by ingestion of the eggs in contaminated food or by autoinfection. Autoinfection usually occurs following ingestion of the eggs from the feces of a carrier or if eggs move by reflux into the stomach from the intestine [3]. The definitive host for T. Solium is humans, while pigs as well as dogs, cats, and sheep that may harbor the larval forms are the intermediate hosts [6]. The life cycle of the tapeworm is composed of various stages of development requiring different host species to properly harbor the eggs, oncospheres, larvae, and adult worms [5]. When intermediate hosts (pigs or humans) ingest the eggs, they develop into an oncosphere and hatch before penetrating intestinal wall and spread to different tissue sites via the vascular or lymphatic circulation, followed by transition into a cysticercosis that seeds into many organs, giving rise to the clinical symptoms of cysticercosis [3,5,7].

The most prevalent and severe complication is the development of neurocysticercosis which is marked by headache, fever, convulsions, raised intracranial pressure, meningitis and mental disorders. This is often diagnosed as multiple cystic rings enhancing parenchymal lesions detectable on contrast-enhanced computed tomography (CT) [5]. However, neck cysticercosis may present as

a painless soft tissue swelling of long-term duration and mimicking other soft tissue swelling as in the case of our index patient. The patient had a single right sided painless neck swelling that slowly increased in size.

The growing larva actively evades host immune recognition and does not elicit inflammation. However, on the death of the larva, there is fluid leakage from the cyst resulting in acute inflammatory body reaction around the cyst causing localized pain and myalgia. Granulomatous inflammatory reaction with infiltration by mixed inflammatory cells including neutrophils, eosinophils, lymphocytes, plasma cells, and at times giant cells followed by fibrosis and necrosis of the capsule with eventual caseation or calcification of the larva follows intermittent leakage of the cystic fluid during degeneration resulting in a mass-like lesion mimicking a pseudotumor which was seen in the index case [5,8].

Our index case presentation can appear clinically as a lipoma, or cervical lymphadenopathy from any cause. The differential diagnosis depends on the location and the clinical presentation. The final diagnosis of cysticercosis is dependent on histologic examination All cases of head and neck cysticercosis should be investigated for the involvement of multiple sites, because of the high incidence of multilocularity reported in the literature [9]. The drug of choice for treatment is Praziquantel (50 mg/kg/day) and albendazole (15 mg/ kg/day), both with similar therapeutic efficacy [9].

Conclusion

Cysticercosis is a highly preventable disease. Proper personal and household hygiene, good disposal of faecal matter and adequate treatment of cases can prevent cysticercosis as well as the development of its complication. Histopathology remains the mainstay of diagnosis.

Ethical Statement

We obtained informed consent from the patient for the publication of this case report and any accompanying images according to the guidelines of Ethical and Research Committee of Obafemi Awolowo University Teaching Hospitals Complex.

Availability of Data and Materials

The tissue blocks are available for future use.

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Conflict of Interest

We declare no conflict of interest.

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