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Case Report

CYSTICERCOSIS OF BREAST PRESENTING AS FIBROADENOMA

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ABSTRACT

Breast lump is a common diagnostic problem both to the general practitioner and to the surgeons. However, rare breast lesions are often misdiagnosed clinically with other diagnoses. We present a case of cysticercosis of breast in a 23-year-old woman presented with a 3-month history of right breast lump. Clinical examination revealed a mobile, painless, 2.0 cm mass in the right breast similar to fibroadenoma. The axilla and nipples had no abnormalities. The patient underwent resection of the mass, and a cystic lesion was found. Microscopic examination revealed a cystic cavity containing larvae and it consistent with cysticerci. Characteristic features of this uncommon location are discussed based on a review of the literature. This case report emphasizes the fact that although the breast is unusual site for cysticercosis, it should be considered as differential diagnosis while dealing with a painless, freely mobile lump in the breast, especially in the endemic area.

Keywords: Breast, Cysticercosis, Histopathology.

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INTRODUCTION

Cysticercosis is a systemic disease caused by cysticercus cellulosae, larval stage of *Taenia solium*. Developing countries show a high prevalence of the infection due to coexistence of poor sanitary conditions and domestic pig raising without veterinary control or surveillance systems [1]. It is common in developing countries such as China, India, Chile, Brazil, Papua, Southern Africa, Central America, New Guinea, and 0 where pigs feed on human feces and where undercooked or raw pork is consumed [1,2]. Cysticerci may be found in almost any tissue, however, the most frequently reported locations are skin, skeletal muscle, heart, eye, and the central nervous system [3,4]. Biopsy of these lesions can show the larval structures and are diagnostic of cysticercosis. It is unusual for cysticercosis to occur in the substance of the breast and the diagnosis is usually made incidentally [1]. Only a few cases are described in the literature. We reported a case of cysticercosis of breast in a 23-year-old woman.

CASE REPORT

A 23-year-old woman presented with a 3-month history of right breast lump. The lump was in the upper outer quadrant. There was no discharge from the nipple. There were no complaints related to any other organ or system. Clinical examination revealed a mobile, painless, which was soft to firm in consistency, 2.0 cm mass in the right breast. The left breast was normal so as the axilla and nipples had no abnormalities, and an initial clinical diagnosis of fibroadenoma was made. Breast sonography was performed using a high-frequency transducer of 11-14 MHz. Imaging demonstrated a well-defined cystic lesion in upper outer quadrant of right breast. The cystic lesion contained an echogenic nodule. There was a hypoechoic area surrounding the cystic lesion. Fine-needle aspiration cytology (FNAC) yielded scanty material and was inconclusive. The patient underwent resection of the mass, and a cystic lesion was found which was sent for histological examination. Grossly, the lump consisted of a gray-white, cystic, nodular swelling which measured 1.75 cm×1.00 cm. The external surface was smooth and glistening. On sectioning, a mural nodule 5 mm in size was found along with the serous fluid. Microscopic examination revealed a cystic cavity containing typical cysticercus larvae (Figs. 1 and 2), consistent with cysticerci and confirming the diagnosis of cysticercosis of breast. An additional effort was made, to exclude the infestation at the other sites, which revealed that the whole body was normal. The patient was prescribed antihelminthic therapy.

DISCUSSION

The cause of human cysticercosis is the egg form of *T. solium* (often abbreviated as *T. solium* and also called pork tapeworm), which is transmitted through the oral-fecal route. Man is the only definitive host and pigs are the usual intermediate hosts although dogs, cats, and sheep may harbor the larval form. Human infection is usually due to ingestion of improperly cooked pork and rarely due to contamination of food or water with eggs [5]. The eggs enter the intestine where they develop into larvae. The larvae enter bloodstream and invade host tissues, where they further develop into larvae called cysticerci. The cysticercus larva completes development in about 2 months. It is semi-transparent, opalescent white, and elongate oval in shape and may reach a length of 0.6-1.8 cm [6].

Human cysticercosis is found worldwide, especially in areas where pig cysticercosis is common, and the highest rates of infection are found in areas of Latin America, Asia, and Africa that have poor sanitation and free-ranging pigs that have access to human feces. Cysticercosis is most often found in rural areas of developing countries with poor sanitation, where pigs roam freely and eat human feces. Cysticercosis is rare among persons who live in countries where pigs are not raised and in countries where pigs do not have contact with human feces [7].

Although cysticercosis is common in skeletal muscle, subcutaneous tissue, brain, and eye, it is unusual in breast. Only a few such cases have been reported in the literature [1,5,8-12]. In a large series (n=62) of histologically confirmed cases of cysticercosis reported from Nepal, only five were located in the breast [5,13].

A study from Nepal [13], reported 62 cases of histologically diagnosed cysticercosis, five of which were found in the breast substance. In this case, an initial diagnosis of fibroadenoma of the breast was made, due to its typical feature of a painless, firm, and a freely mobile mass [8,11]. Thus, a diagnosis of cysticercosis in the unusual sites may be clinically difficult. It can be diagnosed only by the histological demonstration of

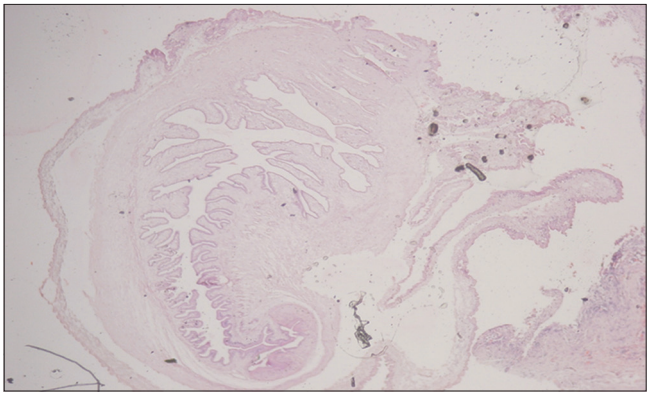

Fig. 1: Photomicrograph showing cysticercus cellulosae larva (Hematoxylin and eosin, ×60)

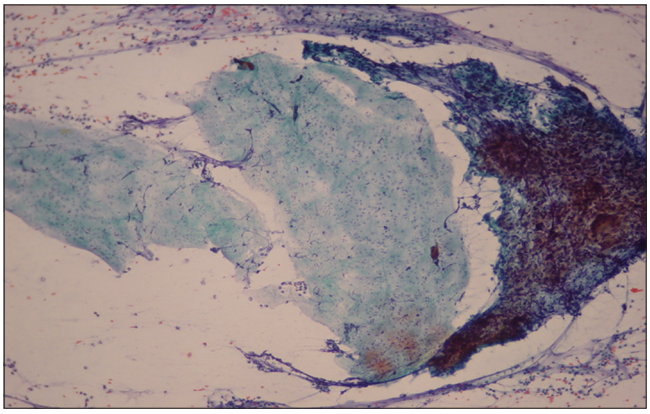

Fig. 2: Photomicrograph showing cyst wall of parasite. Outer cuticle covered by microvilli with adjacent host tissue can be seen (Hematoxylin and eosin, ×100)

the parasite in surgically removed tissues or by radiological means, which may give a clue [11].

Clinically, cysticercosis of the breast is hardly differentiated from the neoplastic lesions. Similar to our case due to the frequent presentation as a painless, firm, and freely mobile nodule. Hence, it is often clinically misinterpreted as a fibroadenoma, and this is consistent with another case study from Nepal [8].

As cysticercosis of the breast may present as a breast lump, chest radiograph, and computed tomography (CT) help in detecting calcified cysts. CT is useful in detecting and evaluating specific stages of cysticercosis [5,14]. High-frequency ultrasonography is a relatively inexpensive, readily available, and reliable imaging modality for diagnosis of soft tissue cysticercosis [5,15]. In the present case, X-ray and ultrasound scan of the other parts of the body were normal.

FNAC also plays an important role in diagnosing cysticercosis, but it is limited by the varying cytomorphological features of cysticercosis [11]. The host tissue response is extremely variable, and it ranges from an insignificant response to the markedly cellular response, which consists of epithelioid cell granulomas and histiocytes. In a study which was done by Sahai *et al*., the presence of palisading histiocytes and eosinophils was found consistently in the patients with a cysticercosis breast [16]. In the present case, the FNAC was non-diagnostic.

Cysticercosis is a preventable fecal-oral transmitted infection. It is possible to prevent infection by avoiding undercooked food and pork, and water contamination with human feces.

CONCLUSION

We report a case of cysticercosis of breast who presented clinically similar to fibroadenoma. This case report emphasizes the fact that although the breast is the unusual site for cysticercosis, it should be considered as differential diagnosis while dealing with a painless, freely mobile lump in the breast, especially in the endemic area.

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