Case Report

DOI: 10.17354/ijss/2015/374

Incidental Finding of Cysticercosis of Breast: A Rare Presentation

Simi Kumari[1], Vijayanand Choudhary[2], Sangeeta Pankaj[3], Pushpa Kumari[4]

[1]Senior Resident, Department of Gynecological Oncology, Regional Cancer Centre, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India, [2]Associate Professor, Department of Pathology, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India, [3]Associate Professor, Department of Gynecological Oncology, RCC, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India, [4]Senior Resident, Department of Radiology, Regional Cancer Centre, Indira Gandhi Institute of Medical Sciences, Patna, Bihar, India

Abstract

Cysticercosis in human is an infection caused by the larvae of *Taenia solium*. They can affect any part of the body, the most common sites being the brain, cerebrospinal fluid muscle, and the subcutaneous tissues or eye. In this report, we are presenting a case of 32-year-old woman who came with complaints of a painless, mobile lump in the right breast. A clinical diagnosis was a fibroadenoma, and she was advised for ultrasonography, which revealed the presence of cysticercosis larva. Fine-needle aspiration cytology was done, which was reported as foreign body giant cell reaction. Enzyme-linked immunosorbent assay for the antibody was also done, which was positive. Although the diagnosis of cysticercosis in the breast is atypical and rare, and it depends mainly on the histopathological examination. The patient was advised albendazole and glucocorticoid for 28 days followed by excision, to see the effect of the drug. Cysticercosis of the breast it is rare, in spite of this it should be considered as a differential diagnosis for a lump in the breast especially in the areas of a greater prevalence.

Key words: Breast, Cysticercosis, Fibroadenoma, *Taenia solium*

INTRODUCTION

Human cysticercosis, a parasitic infection caused by cysticercus cellulosae, the larval form of *Taenia solium*. It is present world-wide but is the most prevalent in Mexico, Africa, South-East Asia, Eastern Europe, and South America.[1] Cysticercosis in human is a parasitic infestation, which is caused by the larvae *T. solium*,[2] a pork tapeworm. In the developing countries, it is a major public health problem, where open-air defecation and food contamination are unchecked. The common sites of occurrence of cysticercosis are the brain, cerebrospinal fluid, skeletal muscle, the subcutaneous tissues, and the eye; in the decreasing order of frequency. The breast is an uncommon site for cysticercosis, with only a few cases having been reported in the literature.[3] The patients with cysticercosis is commonly present with a lump in the breast.

Access this article online

www.ijss-sn.com

Month of Submission : 06-2015
Month of Peer Review : 07-2015
Month of Acceptance : 07-2015
Month of Publishing : 08-2015

CASE REPORT

A 32-year-old married female presented to Gynecological Oncology outpatient department with a painless lump in the right breast, which was present from a period of 6 to 7 month. On examination, a freely mobile lump which measured 2 cm × 3 cm was found in the right lower outer quadrant of the breast, which was non-tender and firm in consistency having a smooth surface. Her ultrasonography (USG) revealed oval cystic lesion of size 30 mm × 13 mm with central calcified nidus. Enzyme-linked immunosorbent assay (ELISA) for the antibody of cysticercosis was positive. Fine-needle aspiration cytology (FNAC) was reported as cells showing mixed inflammatory cell infiltrate and foreign body giant cell reaction. She was advised albendazol 400 mg and wysolone 5 mg daily for 28 days with tapering dose, following which lesion was observed after 6 weeks and USG shown in Figures 1 and 2 was repeated, after which the size was unnoticeable. The excision of the lump was now done, and sample sent for histopathological examination.

Corresponding Author: Dr. Sangeeta Pankaj, Gynecological Oncology, Regional Cancer Centre, Indira Gandhi Institute of Medical Sciences, Patna - 800 014, Bihar, India. Phone: +91-9334337127/9006655267. E-mail: sangeetapankaj@yahoo.co.in

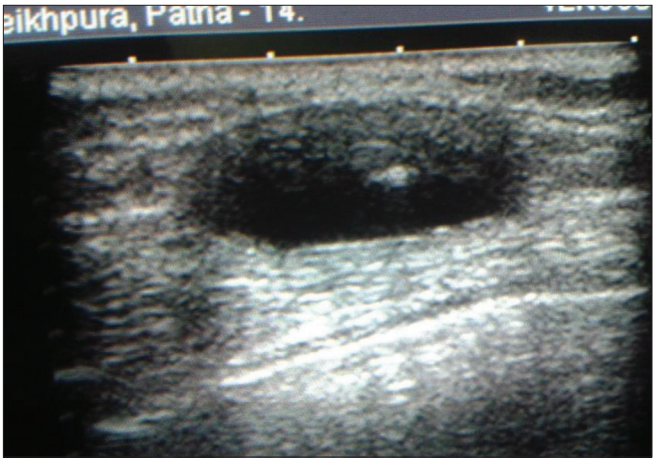

Figure 1: Thin-walled cystic lesion with posterior acoustic enhancement and central hyperechoic foci noted within it (Before treatment)

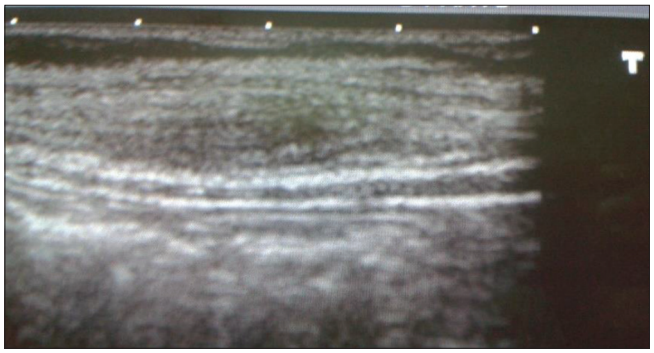

Figure 2: Thin-walled cystic lesion with central hyperechoic foci noted in previous image disappears after treatment

Pathological Finding

On gross appearance, the lump consisted of a gray-white, cystic, and nodule of size 2.5 cm × 2.5 cm. The external surface was smooth and glistening. The cut section of lump showed a cyst with clear serous fluid, and a white mural nodule seen in the cyst wall. The nodule measured 2 mm × 1 mm.

Microscopic sections showed a cyst which was composed of three layers, the outer cuticular layer, the middle cellular layer, and the inner fibrillary layer forming a racemose pattern. After the histological diagnosis of cysticercosis, an extensive search was made, to exclude the infestation at the other sites in the body. The physical and the radiological examinations of the whole body were normal. The stool examination did not show any eggs or proglottids.

DISCUSSION

Cysticercosis is caused by the larval stage of tapeworm i.e., *T. solium*. It continues to be a major public health problem in the developing countries, where open-air defecation and a lack of hygiene are uncontrolled. Human cysticercosis, a potentially deadly infestation, is the consequence of the ingestion of the eggs of *T. solium*, which is present in contaminated food, water, unwashed hands, and by means of autoinoculation which results from reverse peristalsis. The common sites of cysticercosis are skeletal muscle, subcutaneous tissue, breast, brain, and eye in the decreasing order of frequency.[4] The breast is an unusual site for the cysticercosis to form and only a few such cases have been reported in the literature.[5] Amatya and Kimula from Nepal reported out of 23,402 biopsy, 62 cases of histologically diagnosed cysticercosis, five of which were found in the breast substance.[6] In this case, an initial diagnosis of fibroadenoma of the breast was made, due to its typical feature of a painless, firm and freely mobile mass.[5,6] Hence, it is clear that at the unusual sites may be difficult to diagnose it clinically. It can be diagnosed by various investigations such as USG, X-ray, computed tomography scan, and ELISA test, but confirmation is done only by the histological demonstration of the parasite in surgically removed tissues. Feature supportive of its diagnosis on imaging: By USG movement of larva, calcific nidus can be seen, by X-ray and computerized tomography visualization of the calcifying cysticerci.[7] FNAC also plays an important role in diagnosing cysticercosis, but it is limited due to the varying cytomorphological features of cysticercosis. 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 India, a review study of 8364 breast aspirates over 15 years (1978-1992) in All India Institute of Medical Sciences, New Delhi, demonstrated only eight cases of cysticercosis in a study done by Sahai *et al.*[8] The presence of palisading histiocytes and eosinophils was found consistently in the patients with a cysticercosis breast. The hooklets and the scolex were occasionally seen. In the present case, on FNAC we found foreign body giant cell reaction which is informative. Serological tests such as the indirect hemagglutination test, indirect fluorescent antibody test, and ELISA can be used to diagnose cysticercosis in the suspected cases, but these are limited due to low sensitivity and specificity of the test. This case report emphasizes the fact that cysticercosis of the breast should be considered as a differential diagnosis for a mass in the breast, especially in the areas of greater prevalence and it may mimic benign, as well as malignant presentation of breast. In all inflammatory/cystic/inflammatory cystic lesions, the possibility of cysticercosis should be kept in mind.

CONCLUSION

Cysticercosis of breast emphasizes it should be considered as a differential diagnosis of lump of the breast, especially

in the area of great prevalence of this parasitic disease; although the fact that the breast is the unusual site for cysticercosis.

REFERENCES

1. Jain BK, Sankhe SS, Agrawal MD, Naphade PS. Disseminated cysticercosis with pulmonary and cardiac involvement. Indian J Radiol Imaging 2010;20:310-3.
2. Agnihotri S, Talwar OP, Pudasaini S, Baral R. Cysticercosis of breast – A case report. Pol J Pathol 2006;57:53-4.
3. Sah SP, Jha PC, Gupta AK, Raj GA. An incidental case of breast cysticercosis associated with fibroadenoma. Indian J Pathol Microbiol 2001;44:59-61.
4. Chi HS, Chi JG. A Histopathological Study On Human Cysticercosis. Kisaengchunghak Chapchi 1978;16:123-133.
5. Geetha TV, Krishnanand BR, Pai CG. Cysticercosis of the breast: A rare presentation. J Nepal Med Assoc 2000;39:184-5.
6. Amatya BM, Kimula Y. Cysticercosis in Nepal: A histopathologic study of sixty-two cases. Am J Surg Pathol 1999;23:1276-9.
7. Upadhyaya V, Narain D, Sankar S. Cysticercosis of breast. J Diagn Med Sonogr 2010;26:35-38.
8. Sahai K, Kapila K, Verma K. Parasites in fine needle breast aspirates – Assessment of host tissue response. Postgrad Med J 2002;78:165-7.

How to cite this article: Kumari S, Choudhary V, Pankaj S, Kumari P. Incidental Finding of Cysticercosis of Breast: A Rare Presentation. Int J Sci Stud 2015;3(5):194-196.

Source of Support: Nil, **Conflict of Interest:** None declared.