## **Case Report**

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# A rare case of unilateral breast filariasis mimicking chronic mastitis

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#### **ABSTRACT**

Filariasis of the breast is a very rare condition. In India, largest number (around 600 million) of people live in endemic areas. Despite the huge number, it is quite rare to find microfilaria in routine smears and body fluids and it is even more rare to find it in breasts. A 40 years old female, presented with a history of lump in the right breast approximately 3x3 cm in size in the right lower quadrant. Findings were confirmed by clinical examination which did not reveal any palpable ipsilateral or contralateral axillary lymph nodes. FNAC showed it as a benign lesion. After local excision, histopathology revealed a filarial worm. Filariasis of the breast is a rare disease. The presence of microfilaria in breasts using FNAC has been reported at times but the presence of the filarial worms can only be confirmed on histopathology, hence a core biopsy or an excision biopsy is a must in all the cases. A presumptive diagnosis of filariasis can be made on sonography if the worms are alive and active, the typical presentation on USG is the filarial dance. Surgical excision of the lump followed by DEC therapy is the treatment of choice for filarial lump of the breast.

Keywords: Filariasis, Chronic mastitis, Breast filariasis, Wuchereria bancrofti

### INTRODUCTION

Filariasis is an endemic disease in the Asia and African sub-continents and has emerged as a major health concern, however filariasis of the breast is a rare entity even in an endemic country like India. So far only few cases have been reported in the literature in India where over 300 million people live in endemic zones. Breast filariasis most often mimic other pathological conditions of the breast, which leads to delay in proper diagnosis and treatment, unnecessary surgical intervention and utilization of the resources. Here we report a rare case of filariasis of the right breast in a young woman who was diagnosed as and treated for chronic mastitis but subsequently was found to have a filarial worm in the breast.

### **CASE REPORT**

A 40 years old non lactating female, a farmer by profession, hailing from Bihar, presented in the surgical

OPD with the complains of painful swelling in the right breast for the past 3-4 weeks, with slight increase in size of the swelling since last two weeks. The pain was noncyclical and more on the right upper outer quadrant. There was a h/o itching over the peri-areolar skin of the right breast and low-grade fever on and off since last two months. No h/o any nipple discharge. There was no history of any symptoms in the left breast and no significant past medical/surgical/family history.

On examination of the right breast there was a mild redness with fullness mainly in the right upper outer quadrant with mild to moderated tenderness. There was a significant Induration in the right upper quadrant, however no lump was palpable. Small pinpoint rashes present in the infra mammary fold with itching. There was no nipple discharge or abnormality of the nipple and no axillary lymphadenopathy.

Hematological examination revealed mild leukocytosis (12670/mm³), mild eosinophilia-720/mm³, high ESR-105.

A provisional diagnosis of chronic mastitis was made and the patient was started on a broad-spectrum antibiotic, after which patient showed clinical improvement.

Patient came to the OPD again after 1.5 months with similar complains on the same side breast. On examination, a small lump of approx. 1.5 cm was palpable subcutaneously in the upper outer quadrant of the right breast, with smooth margins, regular surface, soft to firm in consistency, with Induration of the overlying skin.

Repeat hematological parameters showed consistently high eosinophils (745/mm<sup>3</sup>) with ESR of 96.

Sono-mammography was done this time which showed fibrocystic changes in the parenchyma of the right breast along with a presence of a small complex cyst  $(1.9\times1.2$  cm) in right upper lateral quadrant BI-RADS category 3.

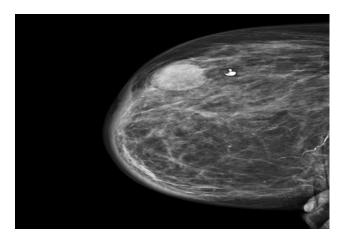


Figure 1: Mammography image (mediolateral view) of right breast of a complex cyst.

Patient was taken up for wide local excision of the right breast lump under GA. Histopathology showed fibrocystic breast disease with inflammatory cells and presence of a microfilaria.

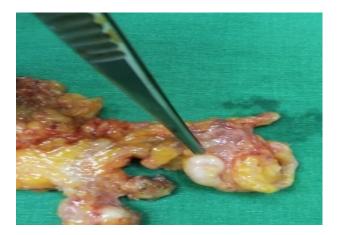


Figure 2: Right breast excised tissue of a complex cyst.

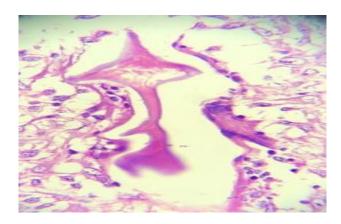


Figure 3: Histopathology slide of filarial worm.

Following these, the patient was subsequently treated for filariasis with di-ethyl carbazine-citrate (DEC), 6 mg/kg/day for 3 months. Follow up after 3 months, patient was asymptomatic without any fresh complains.

#### **DISCUSSION**

Filariasis is a significant global health problem and has been identified as a leading cause of permanent and long-term disability in cases of limb filariasis, by WHO. Wuchereria bancrofti and Brugia malayi being responsible for 98% of the infection in endemic countries, including India. Maximum number of cases of filariasis occur in India, where over 300 million people are living in endemic zones however filariasis of the breast is an uncommon condition and can cause a diagnostic dilemma at times, mainly because of its variable presentation. Hence a high index of suspicion especially in patients from endemic areas is required.

The clinical manifestations of lymphatic filariasis may vary from one endemic area to another. In breast filariasis, the lymphatic vessels of the breast which acquire larval contamination can cause lymphatic obstruction, lymphangitis and fibrosis leading to disruption of lymphatic drainage. Most common site is upper outer quadrant of breast, but central or peri areolar nodules can occur with notable frequency.2 Most of the lesions involve subcutaneous tissue and present as a hard with cutaneous attachment. Sometimes accompanying inflammatory changes in overlying skin including edema of the skin (Peau d' orange) and enlargement of axillary lymph nodes make it clinically indistinguishable from carcinoma.3

Calcified adult filarial worms in the tissue can elicit pronounced inflammatory reaction compared to live worms, mimicking the inflammatory breast disease.<sup>4</sup> Sometimes an already compromised lymphatics can cause suppurative inflammation causing superadded fungal or bacterial infection. The solid tissue reaction due to localized fibroblastic and histiocytic proliferation around degenerated adult worm can mimic mastitis as seen in our case.

In terms of diagnostic modalities for breast filariasis, FNA cytology appears to be a more convenient and effective diagnostic tool in patients with a mass lesion.<sup>5</sup> Imaging plays an important role in the diagnosis. Ultrasound is a valuable tool as real time ultrasound demonstrates the typical vigorous movement of the filarial worms termed as "filarial dance" which is classical.<sup>6</sup>

Polymerase chain reaction-based immunological blood test for *Wuchereria bancrofti* can also be a helpful adjunct as a diagnostic work-up. However, in cases of diagnostic dilemma, surgical excision of the lesion for diagnostic confirmation is indicated.

Demonstration and identification of the parasite in smears beforehand helps in avoiding surgical excision and early institution of appropriate therapy especially in young patients.

A course of diethylcarbamazine 100 mg three times daily or 6 mg/kg/day orally is fairly effective and is usually given for 3 months, along with albendazole 400 mg one stat dose.<sup>7</sup> The prognosis of the disease is usually good if uncomplicated.

#### CONCLUSION

Filariasis of the breast is a rare disease and most often mimic other benign and inflammatory conditions of the breast and lack any characteristic feature of its own and hence a high index of suspicion is needed to diagnose it. Although FNAC has been used in many reported cases, a core biopsy or an excision biopsy is a must for confirmed diagnosis. Correct diagnosis of the disease helps in the early accurate management and avoids unnecessary and repeated investigations or surgical interventions. Surgical

excision of the lump followed by DEC therapy is the treatment of choice for filarial lump of the breast.

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