

Filariasis of the breast---a rare case report from endemic eastern U.P. (India) with review of literature

Bhattacharya. A.B

Professor, Dept. of Pathology, Hind Institute of Medical Sciences, Safedabad, Barabanki. (UP) India.

Abstract: Parasites in the human breast are uncommon but not rare. Hydatid cyst in breast is very rare. Others like cystecercosis, schistosomiasis and filariasis have been documented in the breast though uncommon and their cytomorphology is well characterized. Filariasis caused by *wuchereriabancrofti*, *brugia malayi* and *brugia timori* affect the lymphatic system with a predilection for lower limb, retroperitoneal tissue, spermatic cord and epididymis. Breast, thyroid, body fluids and skin are unusual sites for it, thus making extranodal filariasis a rare entity. I hereby present a young female from a nonendemic area, with a painful lesion in right breast with enlarged right axillary lymph node and fever. Fine needle aspiration cytology revealed microfilaria of *Bancrofti* and the diagnosis was given as Filariasis of right breast. Many times it is mistaken for an inflammatory carcinoma clinically. We would like to emphasize that the differential diagnosis of filarial granuloma should be considered in the above mentioned clinical settings in endemic and non-endemic areas as well.

I. Introduction:

Filariasis is a major health problem in the African and Asian subcontinents being transmitted by nocturnal culex mosquito. Since these parasites present as lumps in the breast they are a cause of concern because of clinical suspicion of malignancy. Some parasites can remain in the human body for varying periods of time without invoking any adverse host inflammatory response. The factors responsible for initiation of host reaction are not known till now. It is this host reaction that brings forth the symptoms and signs of the parasites' presence in the body tissues.

II. Case Presentation:

A 35 year old female from a non-endemic area of Barabanki District, Eastern UP (India) presented with complaints of pain in right breast and right axilla and fever since 6 days.

2.1. General Physical Examination: Was unremarkable.

2.2 Systemic Examination : Revealed an indurated area of size 5 x 4 cm in the lower outer quadrant of the right breast. She had discrete enlarged lymph nodes in the right axilla. No definite mass in breast was felt. There was no nipple retraction or peau d'orange noticed in the right breast.

2.3 Haematological examination : Revealed eosinophilia. Midnight peripheral blood sample showed bancrofti microfilaria.

2.4 Ultrasonogram : Right breast showed dilated ducts with features of mastitis with dilated lymphatics containing many microfilaria. On videography the microfilaria showed gentle swaying movements.

2.5 FNAC from the indurated area in the right breast yielded a small amount of purulent material. Smears revealed cellular picture with numerous polymorphs, eosinophils, foamy histiocytes, few degenerated ductal cells and bancrofti microfilaria in a necrotic background. The microfilaria were rounded anteriorly with a tapering posterior end. Also they had a clear space free of nuclei at the caudal end. No malignant cells were identified.

The patient was given antibiotics and diethylcarbamazepine (DEC). Patient was finally discharged in a satisfactory condition.



Microfilaria bancrofti in right breast aspirate.

III. Discussion :

Filariasis is a global problem. In India, Bihar, W. Bengal, Jharkhand, whole of South India and coastal areas are endemic for filariasis [1]. Out of the eight identified species three are known to cause lymphatic filariasis. These are *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timori* [1]. The microfilariae find their way into the lymphatic system by penetrating the skin following a mosquito bite. The bancroftian and brugian microfilaria show a nocturnal periodicity as a part of the biological adaptation correlating with the nocturnal habits of the *Culex* mosquito. The infected larvae develop into adult male and female worms which are found in the lymphatic system of human. Male worm measures 40 mm while female measures 50 to 100 mm long. The female worm is viviparous giving birth to as many 50,000 microfilariae per day [1]. There have been citations of microfilaria in bronchial aspirates, pericardial fluid, cervical smears, vaginal smears, joint aspirates and thyroid nodule aspirates [2,3]. Filarial infection of breast is unusual [4,5,6]. In some cases it mimics inflammatory malignancy [7]. Also in some cases it is associated with breast malignancy [8]. DEC is the drug of choice as it is effective against the adult worm and microfilaria. A single dose of 6mg/kg body weight is effective [9]. The other drug used is Ivermectin in a single dose of 200 to 400 microgram per kg body weight [10].

IV. Conclusion:

Filariasis of the breast is an uncommon condition and can cause a diagnostic dilemma at times, more so in primary health centres. Hence a high index of suspicion especially in patients from endemic and non-endemic areas should be kept in mind. So that we avoid surgical procedures in young patients. Also the particular dancing (gentle swaying) movements of the microfilaria in videography in higher centres is diagnostic of filariasis.

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