

## Use of FNAC in Diagnosis of Microfilaria of Breast: A case report

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### ABSTRACT

Extranodal filariasis occurs rarely and breast is an uncommon site for filariasis. The present case is of 23 yrs old female with a painless lump in the left breast involving upper outer quadrant. Provisional clinical diagnosis was Fibroadenoma, left breast. However, cytology smears showed clusters of degenerated ductal cells and several Microfilaria larvae. Thus, a definitive diagnosis of Filariasis, left breast was made. Patient was put on conservative treatment and recovery was uneventful. Therefore, simple yet effective mode of cytological diagnosis was able to avert an unnecessary biopsy/ lumpectomy in this patient.

**Keywords :** Filariasis, Breast Lump, FNAC(Fine needle aspiration cytology), Wuchereria bancrofti

### INTRODUCTION

Filariasis is a major health problem. Wuchereria bancrofti causes most of the cases that are seen in India and other parts of Asian continent. The most common sites which it affects are the lymph nodes and lymphatic vessels.<sup>1</sup> However, the breast is not a commonly involved site.<sup>2-5</sup> Microfilaria has been isolated from various other locations such as epididymis, spermatic cord, cervicovaginal smear, lung, thyroid nodule, skin and soft tissue swellings, salivary glands, lymph nodes, nipple discharge, effusion fluids (pleural, pericardial, peritoneal), hydrocele fluid, bone marrow, urine and aspirates from brain and joints.<sup>6-9</sup>

### CASE REPORT

A 23 yr old female patient presented with the

chief complaint of painless, slow growing nodule in her left breast for 3 months duration. No history of cough, fever, weight loss, trauma or nipple discharge could be elicited. There was no family history of breast carcinoma.

Palpation of the breast revealed a firm, discrete, non tender mass, 3.0 x 2.0 cm in size, located in the upper, outer quadrant of left breast. The lump was mobile within the breast tissue and was free from overlying skin and muscles underneath. There were no enlarged axillary lymph nodes. The opposite breast appeared normal. Other physical and medical examinations did not reveal any significant findings.

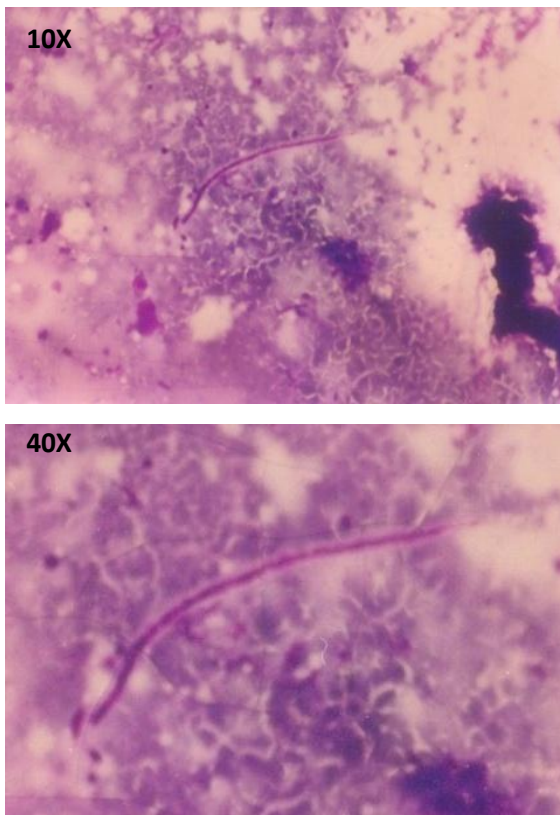
A 24 gauge needle fitted to a 10 cc syringe was used to perform FNAC. Smears were air dried and wet fixed immediately in fixative (95% ethanol). They were subsequently stained with May-Grunwald-Giemsa and H&E stain

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respectively. Smears showed clusters of degenerated ductal cells and several *Microfilaria* larvae. Scattered inflammatory cells were found which included eosinophils, polymorphs, lymphocytes and few histiocytes (Figure 1).

A cytological diagnosis of Filariasis, left breast was made. A conservative treatment plan was selected for the patient. On follow up, patient showed response to the therapy.



**Figure 1: H/E stained smears showed clusters of degenerated ductal cells and several *Microfilaria* larva. There were scattered inflammatory cells comprising eosinophils, polymorphs, lymphocytes and few histiocytes.**

## DISCUSSION

Filariasis occurs worldwide but is more prevalent in Asia, Africa and some South American countries. *Wuchereria bancrofti* (*W. bancrofti*) causes most of the cases. Other causative agents include *Brugia malayi* (*B. malayi*) and *Brugia*

*timori* (*B. timori*).<sup>10</sup>

Lymph nodes and lymphatic vessels are main target of *Wuchereria bancrofti*. It is rare for the female breast to be affected by filariasis and hence not many cases have been cited in the literature.<sup>2-5</sup> The main causative agent for breast filariasis is *W. bancrofti*. From areas where *B. malayi* is endemic, no case has been reported.<sup>11</sup>

Larvae after entering the female breast lymphatics may result in lymphangitis, fibrosis and disruption of lymphatic drainage.<sup>12</sup> The most common site is upper outer quadrant of breast which was also observed in our case. But in literature, central or periareolar nodules as sites for filarial nodules have also been mentioned.<sup>(4)</sup> Some of the cases of filarial nodule may mimic carcinoma breast due to its hard consistency, attachment to overlying skin causing hyperemia and peau d'orange along with axillary lymphadenopathy.<sup>1,13</sup>

FNAC has been used to diagnose cases of filarial nodule in breast.<sup>2-5</sup> In the cytology smears degenerating parasites along with eosinophils, as major inflammatory cell, is the predominant finding as was observed in our case. However, no epithelioid cell granulomas were seen as has been reported in the literature.<sup>14</sup> Kaya and colleagues showed that presence of *Microfilaria* in blood examinations may not be useful as positivity rate is very low (approximately 12%).<sup>15</sup> Therefore, peripheral blood smear examination as a means of diagnosis in such cases is highly unreliable. Thus, in patients with mass lesions, FNAC can be used as an effective diagnostic tool. In conclusion, demonstration of the parasite in the cytology smear is a reliable mode of diagnosis which prevents unnecessary surgical intervention in such patients.

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