Case Report

Fine-needle aspiration of axillary swelling: Cytodiagnosis of an unusual presentation of filariasis

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INTRODUCTION

Filariasis is a major health problem in a tropical country like India. A majority of the infected individuals in filariasis are asymptomatic.[1] The most common presentation of the disease is asymptomatic or subclinical microfilaremia, hydrocele, acute adenolymphangitis, and chronic lymphatic disease.[1] Occult infections can be caused by Wuchereria bancrofti or Brugia malayi with no detectable microfilariae (mf) in the peripheral circulation. These include different clinical conditions such as tropical pulmonary eosinophilia, monoarthritis, and endomyocardial fibrosis, resulting from the pathology mediated by filarial parasites or host’s immune response against infection.[1] Incidental detection of microfilaria in an isolated axillary swelling is unusual. We report such a case which was diagnosed on fine-needle aspiration cytology (FNAC).

CASE REPORT

A 38 Year old female patient, resident of district Gonda, Uttar Pradesh presented with the chief complaints of a painless swelling in the left axillary region for the past 5 months. She had no history of fever, cough, weight loss, or any other swelling elsewhere in the body.

Local examination revealed a nontender mass with limited mobility measuring 3 cm × 2 cm with heterogeneous (soft to firm) consistency [Figure 1a]. General examination revealed the absence of palpable peripheral lymphadenopathy.

A provisional diagnosis of tubercular axillary lymphadenitis was considered. Ultrasonography revealed a well-defined ovoid solid mass in the left axilla measuring 50 mm × 22 mm with echogenic core [Figure 1b].
Moreover, small cystic area was seen along posterior surface measuring 24 mm × 13 mm. A radiological diagnosis of large reactionary lymphadenitis was made.

Fine-needle aspiration from the swelling was performed and yielded 9 ml of hemorrhagic fluid. The smears revealed multiple sheathed, coiled, slightly curved mf of bancrofti with the prominence of lymphocytes along with the presence of few eosinophils in a proteinaceous background [Figure 2a and b]. On FNAC, a diagnosis of filarial parasitic infestation was made. Complete blood count revealed eosinophilia (15%) with absolute eosinophil count of 1680/µl of the blood. Peripheral blood smear examination did not reveal microfilaria. The patient was started on diethylcarbamazine citrate, and on follow-up, the swelling reduced.

DISCUSSION

Filariasis is a major public health problem in tropical countries, including India. It is caused by nematodes wuchereria bancrofti, Brugia malayi, Brugia timori, Loa loa, Onchocerca volvulus, Mansonella perstans, and Mansonella ozzardi.[1,2] W. bancrofti (95%) and B. malayi (5%) are the most common species causing filariasis in India.[1] Adult worms live in the lymphatic channels of the definitive host, and microfilaria is released and circulated in the peripheral blood. The disease most frequently involves lymphatics of the lower limbs, retroperitoneal tissue, spermatic cord, epididymis, and mammary gland.[3] mf has been identified cytologically by FNAC at unusual sites, such as epitrochlear lymph node, axillary lymph node, breast, spleen, ovarian fluid, bone marrow, thyroid, and liver space-occupying lesion.[4] It has also been reported in various other exfoliative samples.[5] The filarial worm in the tissue fluids and exfoliated surface material probably occurs owing to conditions causing lymphovascular obstruction resulting in extravasations of blood and release of mf.[5]

Axillary involvement is an uncommon presentation of filariasis even in endemic communities. Basu et al. reported a case of in large mass of axilla in the background of reactive lymphoid population.[1]

Rare reports of microfilaria have been noted in the axillary cystic swelling in clinically unsuspected cases of filariasis with the absence of microfilariae in the peripheral blood. Axillary swelling can raise suspicion of tubercular lymphadenopathy especially in a country with increased incidence of tuberculosis like India.

Monoclonal antibodies against circulating filarial antigen are used for diagnosis of filaria. Molecular biology techniques such as in situ hybridization (ISH), fluorescence ISH, and polymerase chain reaction are now available for specific diagnosis but are available only in specialized centers.[6] Limited reports are available in the literature highlighting the importance of FNAC as a diagnostic tool in the occult filariasis.

We reiterate that FNAC is a useful tool for early diagnosis of occult filariasis at unusual sites. Patients with axillary swelling may be clinically mistaken for tuberculosis, and FNAC resolves it by demonstration of the larva without needing further tests for confirmation of filariasis.

COMPETING INTERESTS STATEMENT BY ALL AUTHORS

The authors declare that they have no competing interests.

AUTHORSHIP STATEMENT BY ALL AUTHORS

Each author has participated sufficiently in the work and takes public responsibility for appropriate portions of the content of this article.

ETHICS STATEMENT BY ALL AUTHORS

As this is a case report without identifiers, our institution does not require approval from institutional Review Board (IRB).
LIST OF ABBREVIATIONS (In alphabetic order)

B.malayi – Brugia malayi
B.timori – Brugia timori
DEC – Diethylcarbamazine
Mf – Microfilariae
SOL – Space occupying lesion
W.bancrofti – Wuchereria bancrofti

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