Case Report

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Cutaneous Filariasis on FNAC: by Wucheria Bancrofti

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Abstract

Filaria are usually classified according to the final habitat of the adult worms in the human host are The cutaneous group, The lymphatic group, The body cavity group. Onchocerca volvulus and Loa loa are most common organisms reported in subcutaneous tissue, and Wuchereria bancrofti and Brugia malayi are the 2 most common species in lymphatic. In the present case microfilaria of Wuchereria bancrofti was seen in subcutaneous nodule.Fine-needle aspiration cytology (FNAC) is not commonly used for its detection . It has always been detected incidentally, while doing FNACs for evaluation of other lesions. Here we found a rare cases of cutaneous filariasis by Wuchereria bancrofti at lateral aspect of arm diagnosed by fine needle aspiration cytology is reported in 25 yr old.

Keyword: Wuchereria Bancrofti; FNAC; Cutaneous Filariasis; Complete Blood Count (CBC).

Introduction

Filariasis is a major public problem in tropical countries, especially India, China, Indonesia and parts of Africa. Current estimates indicate that there are at least 6 million attacks of acute filariasis per year and more than 20 million people have one or more chronic filarial lesion.India contributes ~40% of the global burden and accounts for ~50% ofthe people at risk of infection. Nine Indian states (Andhra Pradesh, Bihar, Gujarat, Kerala, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal) contribute to ~95% of total burden [6].

The various species are differentiated by the morphological features like presence or absence of sheath, granules and nuclear arrangement in the tail end. Microfilaria found in humans are divided under two broad categories: sheathed and unsheathed. sheathed Microfilaria are Microfilariae bancrofti, Microfilariae malayi and Microfilariaeloa. And unsheathed are Microfilariae perstans and Microfilariae ozzardi, O. volvulus

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Case Reports

A 23-year-old male resident of Bihar presented with a painless swelling of right arm since 1 month with no other significant clinical symptom. On examination, a small subcutaneous swelling in right elbow of about 1.5 × 1 cm was noted. Swelling was soft , nontender and movable. FNAC was performed from the swelling, which yielded blood mixed aspirate.

Smears revealed polymorphous cell population of small and large lymphoid cell along with numerous ensheathed coiled and slightly curved microfilarial larvae having granule in central axis while tail tip is free from granule which signifies its wuchereria Bancrofti (Figures 1 and 2). A cytological diagnosis of microfilaria with chronic inflammatory reaction was made.

Complete blood count (CBC) revealed normal

eosinophil count of 400/cmm. Peripheral smear did not show presence of microfilaria..

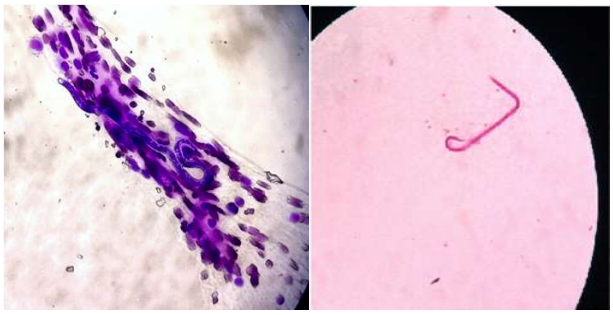

Fig. 1 and 2: Straight and curved microfilaria with lymphoid cells in the background (fields and PAP stain -40X)

Discussion

A significant number of infected individuals in endemic areas remain asymptomatic throughout their life. Microfilaria displays nocturnal periodicity. That is why, three consecutive night blood samples are commonly used for its detection but considered less sensitive tools for its diagnosis. Other methods are circulating filarial antigen (CFA) detection test, which is now regarded as the gold standard and demonstration of parasite in histopathological sections. In India, the prevalence of lymphatic filariasis is quite high; of which, 98% of the diagnosed cases are caused by W. bancrofti [4].

Wuchereria bancrofti, presented as subcutaneous swelling, is a very rare presentation. Its typical presentations are elephantiasis, chronic lymphoedema, epididymitis, funiculitis and lymphadenitis. The subcutaneous filariasis is mainly caused by L.loa, O. volvulus and Mansonella streptococca; of which, L. loa is found in both peripheral blood and subcutaneous nodule; and the other two found only in the skin [5].

The microfilaria bancrofti was detected by aspiration cytology at so many different sites like breast, thyroid, liver, lungs and lymph nodes and a small number of cases have been reported in bone marrow and body fluids, but subcutaneous nodule is an extremely rare presentation [2,3].

The diagnosis of filarial infection in symptomatic cases with typical clinical presentation is often easy and straightforward, but demonstration of microfilariae in circulating blood is the only conventional means by which one can make definite diagnosis. In endemic areas, a majority of the affected individuals remain asymptomatic with continued disease transmission. Regardless of high incidence of this parasite in an endemic zone, microfilaremia is often absent and presence of microfilariae in cytological smears and body fluids is an incidental finding. The absence or transient microfilaremia in these endemic zones further complicates the detection of disease [1]. The majority of cases in endemic regions neither show microfilariae in blood, nor any symptom. Blood eosinophil counts also within the normal range.

Conclusion

In present study patient present with swelling over latral aspect of arm which is unusal site for lymphadenopathy signifies value of FNAC. Clinicaly suspected case of filariasis with history of migration from endemic area even with amicrofilaremia state and normal eosinophil count ; present with swelling should be undergone for FNAC and ELISA test for filarial antigen for effective drug treatment.

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