

## Case Report

# SUBCUTANEOUS FILARIASIS: AN UNUSUAL CASE REPORT

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### Abstract

*Wuchereria bancrofti* presented in subcutaneous nodule is a very rare presentation. *Wuchereria bancrofti* first reported by Bancrofti in Brisbane in 1876 and the name filaria Bancrofti was given in 1877 and the generic name was given in 1878. A 15-year-old male patient's known case of pulmonary Koch's with incidentally detected subcutaneous nodule on right arm pit, cytology from the nodule shows many sheathed microfilaria along with segment of an adult female worm. Wet mount peripheral blood smear shows nocturnal motile microfilaria. The *Wuchereria bancrofti* is known to be associated with pulmonary Koch's. Nocturnal motility and cytomorphological features differentiate *Wuchereria bancrofti* from *Wuchereria loa loa*. After giving diethyl carbamazine (DEC 6 mg/kg) for 21 days without disturbing anti Koch's treatment schedule and microfilaria disappeared from peripheral blood.

**Key Words:** *Microfilariae, subcutaneous nodule, Wuchereria bancrofti*

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### Introduction

Filariasis, a huge public health problem of the tropics and subtropics is commonly seen in countries like India, China, Indonesia, Africa and the Far East.

The life cycle of *Wuchereria bancrofti* was found in two hosts. Man is definitive host and mosquito is an intermediate host. The periodicity of appearance in the blood is usually between 10 pm to 2 am.<sup>1</sup>

The microfilaria Bancrofti was detected by fine needle aspiration cytology (FNAC) at so many different sites like breast, thyroid, lymph node, liver, lungs and small number of cases have been reported in bone marrow and body fluids; but subcutaneous nodule is a very rare presentation.<sup>1-6</sup>In contrast to *Wuchereria bancrofti*; *Wuchereria loa loa* commonly presented as subcutaneous nodules and usually having day time motility in peripheral blood.

### Case Report

#### Clinical Summary

A 15-year-old male known case of pulmonary Koch's on anti Koch's treatment. He visited Calcutta during the course of treatment and came for follow-up after three months. The small subcutaneous nodule; of about 1 x 1 cm on right upper arm; was incidentally noted by the clinician. FNAC from the nodule was initially hemorrhagic and

inadequate. Hence it was repeated after two days and showed whitish brown aspirate.

#### Cytological findings

Cytological examination revealed moderately cellular smears against a dirty necrotic background admixed with lymphocytes, histocytes, plasma cells and abundant eosinophils.<sup>5</sup> Along with clusters of microfilaria; segment of adult female worm was also seen. The micrometry measurement shows microfilaria which was measuring 263 µm x 8.2 µm and is covered by a hyaline sheath measuring 337 mm in length and the segment of adult worm measuring 0.29 mm in width.<sup>1</sup>

#### Peripheral blood examination

Midnight wet mount preparation was done and it showed motile microfilariae. Hetrazan induction was not done to avoid false positivity of motile microfilariae; *Wuchereria loa loa* shows daytime motility and it is the close differential diagnosis of subcutaneous filariasis.

Peripheral blood smear examination revealed 15% eosinophilia.

### Discussion

*Wuchereria bancrofti* presented as subcutaneous nodule is a very rare presentation.<sup>1-6</sup> The subcutaneous filariasis is mainly caused by *Wuchereria loa loa*; *Onchocerca volvular* and *Mansonella streptococca* of which *Wuchereria loa loa* is found both in peripheral blood and subcutaneous nodule; and the other two found only in the skin.<sup>1</sup>

Cabbott given the name Bancrofti in 1877 and generic name was given in 1878. In 1881, Manson described nocturnal

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periodicity of *Wuchereria bancrofti*. Life cycle has two host (i.e., man is definitive host and female *Culex quinquefasciatus* is most important (> 50%) vector of *Wuchereria bancrofti* as an intermediate host).<sup>1</sup>

In our study needle aspiration from the subcutaneous nodule showed whitish brown aspirate and moderately cellular smears against the dirty necrotic background.<sup>5</sup> It revealed many sheathed microfilaria and segment of an adult female worm. *Wuchereria bancrofti* confirmed by both cephalic end and tip of tail free of nuclei and also shows nocturnal motility, which differentiates it from *Wuchereria loa loa*. The cytomorphological features and dimensions by micrometry study confirms adult female worm.

The association of microfilariae with pulmonary Koch's is known as observed in our case.<sup>2</sup>

The patient was asymptomatic for the filarial disease; which was incidentally detected on cytological smears.<sup>3</sup>

The X-ray of subcutaneous nodular region did not show any calcification.

The patient was treated with diethylcarbamazine (DEC- 6 mg/kg) is the drug of choice for the treatment of

Bancroftian filariasis for 21 days. After completion of treatment patient was free from the disease, which was confirmed by nocturnal negative peripheral blood examination.

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