

## Cytological Diagnosis of Microfilaria in Lymphnode

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**Abstract:** Filariasis is a common public health problem in the Southeast Asia. There are approximately 60 million people infected in the region and approximately 31 million people have the clinical manifestation of this disease. Filariasis in India is caused by two closely related nematode worms - *W. bancrofti* and *B. malayi*. The disease mainly involves the lymphatic system of the body. The most frequently involved lymphatics are those of lower limbs, retroperitoneal tissues, spermatic cord, epididymis and mammary gland. Although the incidence is high in the Indian sub-continent, yet it is unusual to find microfilaria on Fine Needle Aspiration Cytology (FNAC). There are at least six million attacks of acute filarial disease per year and 45 million persons are currently having one or more chronic filarial lesions. We report an interesting case of microfilaria in cervical lymphnode aspirate which is an unusual finding.

**Keywords:** Filariasis, lymphnode, FNAC

### INTRODUCTION

The most important variety of filaria is *Wuchereria bancrofti* and the condition is common in all tropical countries. The vector is generally the *Culex* mosquito. The patients remain asymptomatic or may manifest with fever, local pain, sweating, rash, tender lymphadenopathy and blood eosinophilia. An asthma-like respiratory complaint may develop in some cases [1-3].

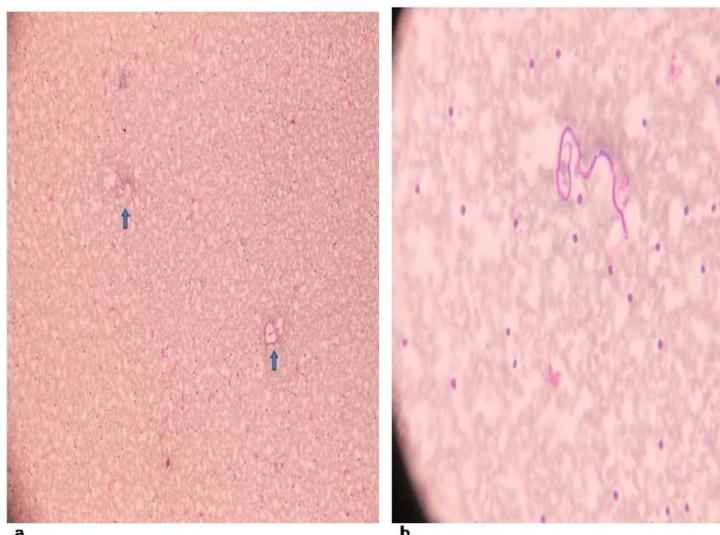
### CASE REPORT

A 48 year old male patient presented with right cervical region swelling since two months. The swelling was firm to cystic with restricted mobility of size 3x2cm. There were no other significant complaints. Results of routine blood studies were normal. Clinically it was diagnosed as abscess or reactive lymphnode. The patient was sent for FNAC for the presumptive

diagnosis of the mass. Clear fluid was aspirated at first and on second attempt hemorrhagic material was aspirated. Cytological examination revealed moderately cellular smears with lymphocytes, few reactive lymphocytes along with microfilaria.[Figure 1 &2]. The patient was treated with diethylcarbamazine, which is the drug of choice for the treatment of filariasis for 21 days.



Fig-1: Microfilaria of *Wuchereria bancrofti* with few epithelial cells in the background. [H&E,x40]



**Fig-2: Microfilaria of *Wuchereria bancrofti* with few epithelial cells in background. Note the cephalic and tail tip free from nuclei [ Fig a & b, H&E x10 & x40].**

## DISCUSSION

*Wuchereria Bancrofti* and *Brugia malayi* that is responsible for 90% and 10% cases, respectively, of the 90 million infections worldwide. Adult worms live in the lymphatic vessels of the definitive host and microfilaria is released and circulated in the peripheral blood. Filariasis causes a spectrum of diseases including asymptomatic microfilaremia, acute lymphangitis and lymphadenitis, chronic lymphadenitis, edema of limbs and genitalia and tropical pulmonary eosinophilia [4].

*Wuchereria bancrofti* presenting as a salivary gland swelling is a very rare presentation. Microfilariae have been identified cytologically at unusual sites such as thyroid, soft tissue, bone marrow, epididymis, lung, broncho-alveolar fluid, breast, gastric brushing, cervico-vaginal smears, and hydrocele fluid [5]. They have also been reported in association with various benign and malignant tumors such as hemangioma of liver, meningioma, intracranial hemangioblastoma, squamous cell, and undifferentiated carcinoma of the uterine cervix, pharyngeal carcinoma, lymphangiosarcoma, urinary bladder carcinoma, prepuccial carcinoma, metastatic carcinoma, melanoma, and leukemia [6]. Despite the large number of people at risk and wide variety of tissues affected, it is unusual to find microfilariae in FNAC smears.

Individuals having circulating microfilariae are outwardly healthy but have the ability to transmit the infection to others through mosquito bites. Those with chronic filarial infection suffer severely from the disease but no longer transmit the infection. Diagnosis of filarial infection is frequently made on clinical grounds in endemic areas, but demonstration of microfilariae in circulating blood is the only means by which one can make definitive diagnosis [7].

In the present case patient did not have any signs and symptoms of filarial infection, and the disease was not clinically suspected. FNAC of the cervical swelling was done in aseptic conditions, by 23 gauge needle attached to 10ml disposable syringe. Slides were air dried, fixed, with ether alcohol and stained by hematoxylin and eosin and Giemsa.

The main purpose of this case report is to raise the awareness that in tropical countries like India where filariasis is endemic, it should always be considered as a differential diagnosis of swelling at any site. Our presentation revealed that microfilaria may even be present at rare site like cervicallymphnode. Careful examination of cytological smears is very important in prompt recognition of the disease and institution of specific treatment especially in unsuspected and asymptomatic cases. FNAC is extremely useful in identifying filarial infection at uncommon sites like parotid.

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