CASE REPORT

# Filarial Pleural Effusion with Cervical Lymphadenopathy

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## Abstract

*Filariasis is a leading cause of permanent and long term disability worldwide, common in tropical countries and is endemic in India. Presence of microfilaria in pleural fluid and lymphnode aspirates is an unusual finding. We here report a rare case of filariasis with sinus histiocytosis in cervical lymphnode along with associated pleural effusion in a 45 year old male. The patient was treated with Diethylcarbamazine Citrate (DEC) and there was a complete response to treatment, further confirming the diagnosis.*

***Key words:*** *Filariasis, Lymphadenopathy, Microfilaria, Pleural effusion.*

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## Introduction

Filariasis considered as a neglected tropical disease, is caused by nematodes belonging to the superfamily Filarioidea. Nearly 1.4 billion people in 73 countries worldwide are threatened by lymphatic filariasis. Over 120 million people are currently infected, 25 million men suffer with genital disease and over 15 million people are afflicted with lymphoedema. The World Health Organization (WHO) has identified lymphatic filariasis as the second leading cause of permanent and long-term disability in the world, after leprosy. In 1997 WHO initiated a program to globally eliminate lymphatic filariasis as a public health problem[1, 2]. Filariasis is common in tropical countries and is endemic in India. We here report a rare case of filariasis presenting as pleural effusion with cervical lymphadenopathy.

## Case Report

A 45 year old male presented with one and a half month duration of cough with scanty mucopurulent expectoration and breathlessness. The patient also had decreased appetite and significant weight loss at the time of presentation. Personal history revealed that he is a known alcoholic and chews tobacco every day since 12 years. All the other members of the family were reported to be healthy. On general examination there was unilateral cervical lymphadenopathy on left side. Chest examination revealed signs of pleural effusion on left side. Other systems were normal. Sputum was negative for acid fast bacilli. Fine needle aspiration of mass in left cervical region was done and aspirate was hemorrhagic. Cytological smears showed sheets and clusters of macrophages, lymphocytes and microfilaria (Figure 1a, 1b, 2). A diagnosis of chronic lymphadenitis with sinus histiocytosis due to infestation with microfilaria in the left cervical lymph node was given. Blood counts were normal with erythrocyte sedimentation rate raised to 60 mm 1$^{st}$ hr. Peripheral blood smear was positive for microfilaria. Chest X-ray revealed moderate pleural effusion on left side. Diagnostic pleurocentesis showed thick brown coloured fluid. Cytological examination showed lymphocytes, clusters of reactive mesothelial cells, red blood cells and microfilaria suggestive of Wucheraria Bancrofti (Figure 1c, 1d). The patient was treated with Diethylcarbamazine Citrate (DEC) and there was a complete response to treatment. Repeat chest X-ray showed disappearance of pleural effusion and was relieved of the symptoms.

**Figure 1: Microfilaria seen in - a, b. Lymphnode aspirate (H & E stain), c. Pleural fluid loaded in neubauer's chamber, d. Wet film of pleural fluid (methylene blue stain)**

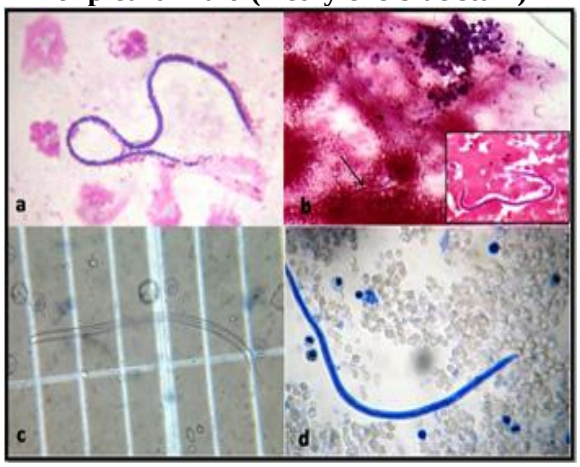
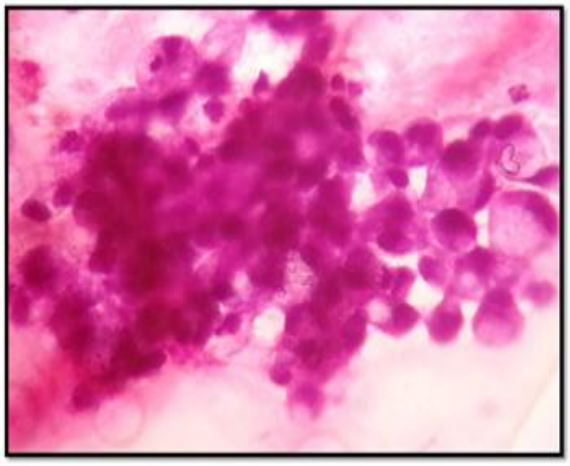



**Figure 2: Macrophage clusters in lymphnode aspirate (H & E stain, high power)**



## Discussion

Filarial parasites of the lymphatic group include Wuchereria bancrofti, Brugia malayi, and Brugia timori. Wuchereria bancrofti is found in sub-Saharan Africa, Southeast Asia, India, and the Pacific Islands and is responsible for 90% of the lymphatic filariasis cases. Mosquitoes of the genera Aedes, Anopheles, Culex, or Mansonia are the intermediate hosts and vectors that cause lymphatic filariasis. Protection against insect vectors and refrain from self-treatment regimens, especially with DEC is essential since this drug can lead to meningoencephalopathy.

Studies suggest that microfilaremia may be increased in individuals with low levels of mannose-binding lectin, suggesting a genetic predisposition[3]. Further, a propensity to develop chronic disease has been demonstrated in patients with polymorphisms of endothelin-1 and tumor necrosis factor receptor II[4].

Lymphatic filariasis infection involves asymptomatic, acute, and chronic phases. The majority are asymptomatic. The acute phase is characterised by lymphangitis, lymphadenitis, fever, epididymo-orchitis, funniculitis[5], eosinophilia and microfilaremia. Chronic stage is characterized by lymphadenopathy, lymphoedema, hydrocele and elephantiasis.

Lymphatic filariasis most commonly involves nodes in the femoral and epitrochlear regions. In our case cervical lymphnode is involved. Filarial pleural effusions[6] are rare and tend to be chylous in nature due to leakage of chyle from the occluded thoracic duct. Non - chylous filarial effusions are rare. In our case, it manifested as an exudative pleural effusion. Exudative effusion may be due to lymphangitis resulting from incomplete obstruction of lymphatics[7]. Filarial exudative pleural effusion with cervical lymphadenopathy as in our case is a rare presentation.

Tropical pulmonary eosinophilia (TPE) syndrome[8] is an occult filariasis resulting from hyper responsiveness to W. Bancrofti or B.malayi antigen. Symptoms of TPE syndrome include cough, shortness of breath, wheezing, anorexia, malaise, weight loss, pulmonary infiltrates on chest radiograph and peripheral eosinophilia accompanied by high levels of IgE and antifilarial antibodies. In our case, there was no TPE on presentation.

A review of literature revealed detection of microfilaria in cytological smears from lymph node[9], breast lumps[10], cutaneous swellings[11], bone marrow[12], bronchial aspirate[13], nipple discharge[14], ascitic[15], pleural[7] and pericardial fluids[16] most of which are incidental. There have been few case reports where microfilaria has been detected in association with malignancy[17, 18].

Diagnosis of filariasis is made on demonstrating microfilaria in the blood samples and body fluids and by detection of filarial antigen & antibody by "card test".

## Conclusion

Filarial infestation is common in tropical countries and is endemic in India. Presence of microfilaria in both pleural fluid and lymphnode aspirates is an unusual finding. This case demonstrates the significance of cytological examination in diagnosing microfilaria. A careful search for microfilaria should be done in case of non resolving and recurrent pleural effusions especially in tropical countries like India. Pleural biopsy improves the diagnostic sensitivity. The prognosis, as in this case is good if infection is recognized and treated early.

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