

Research Article

MICROFILARIA IN PLEURAL EFFUSION-AN UNUSUAL PRESENTATION

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ABSTRACT

Filariasis is endemic in many areas of tropical and subtropical countries. It is a public health problem in many countries including India. Filariasis has wide spectrum of presentation. The majority of cases in India are due to the infection caused by *Wuchereria bancrofti*. Infection caused by *Wuchereria bancrofti* is presented mainly in the form of hydrocele testis and lymphoedema. When it involves the lung, it presents as tropical pulmonary eosinophilia with pulmonary infiltrates and peripheral eosinophilia. Filariasis presenting as pleural effusion is an unusual finding. In this context, we report a case of an 80yr old male patient who presented with shortness of breath, fever and cough. Pleural fluid cytology revealed microfilaria in high density but the peripheral blood smear has not shown eosinophilia and microfilaria even after DEC provocation test, which is very rare.

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INTRODUCTION

Tropical diseases like filariasis are always endemic in the areas of Asian and African countries. Out of the 31 districts in Telangana state, the lymphatic filariasis disease is endemic in 14 districts. In 2020, the state recorded 66,394 lymphoedema and 1,329 hydrocele cases across the endemic districts¹. The 14 endemic districts are KomaramBheem Asifabad, Khammam, Mancheril, Medak, Sangareddy, Siddipet, Nalgonda, Suryapet, Yadadri, Nirmal, Jangaon, Mahbubabad, Warangal Urban and Warangal Rural¹.

CASE DETAILS

This case is of an 80yrs old male patient who was admitted in pulmonology department with shortness of breath. Patient had history of breathlessness for 8 months which was gradually progressing, cough with expectoration for 6 months and fever for 20 days. Patient had history of weight loss for 2 months and loss of appetite for 20 days. Patient is chronic smoker and alcoholic. On Examination, patient is thin built, poorly nourished, with Pallor and Clubbing (grade 2). On Inspection, decreased movements of right hemithorax, Usage of accessory muscles was noted On Palpation, decreased chest wall movement was noted. On percussion, stony dull note on right side was noted. On auscultation, decreased breath sounds and decreased Vocal resonance noted, Polyphonic rhonchi was noted. Probable Clinical Diagnosis: Right moderate parapneumonic effusion with Type 1 Respiratory failure.

Laboratory Findings

Complete blood picture—Neutrophilic leucocytosis

(TLC-26,400Cells/ μ lit, DLC-N-95%), there was no eosinophilia (eosinophils were 3%) and no Hemoparasites found in peripheral blood smears (DEC Provocation test was also negative)

Sputum AFB & CBNAAT-Negative

Ultrasound chest- Right Moderate Pleural Effusion

Chest x-ray & HRCT chest- Right Gross Pleural Effusion with Patchy area of Consolidation (Acute infective etiology) [Figure 1&2]



Fig.1



Fig.2

Thoracocentesis

Around 400ml haemorrhagic brownish turbid fluid was aspirated out of which 100ml was sent for cytological analysis and the remaining was sent for microbiological and biochemical evaluation.

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Pleural fluid for cytological analysis



Figure 3: Hemorrhagic brown turbid appearance of pleural fluid

Cell Count

Total cell count – 5400 cells/ μ lit
 Differential cell count –N-70% L-30%
 Mesothelial cells ++
 RBCs ++

Cell cytology

Centrifuged sediment cytosmears revealed predominantly neutrophils,cellular debris, lymphocytes, macrophages, foreign body type of giant cells, reactive mesothelial cells in clusters with mild to moderate atypia and plenty of microfilaria in haemorrhagic background. [Figure 4-6]

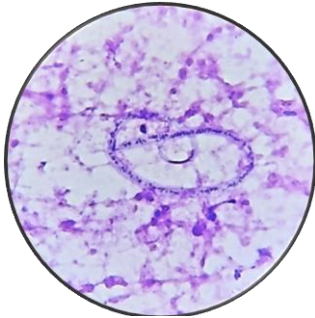


Fig. 4 centrifuged sediment cytosmear shows microfilaria and inflammatory cell debris in the background

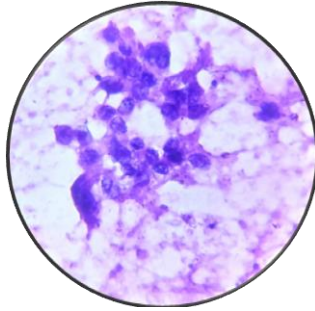


Fig. 5 centrifuged sediment cytosmear shows reactive mesothelial cells in clusters with mild to moderate atypia

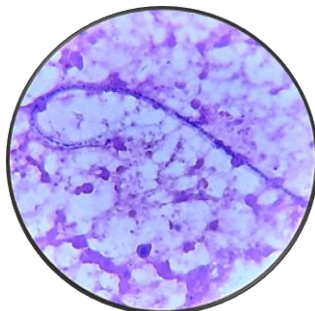


Fig. 6 centrifuged sediment cytosmear shows microfilaria in a background of inflammatory cells and thick protenaceous debris

DISCUSSION

Filariasis is caused by nematodes, which are transmitted by Culex&Mansonia mosquito species. In India, more than 99% of filariasis cases are caused by *Wuchereria bancrofti*. Filariasis has a wide spectrum of presentation – as lymphatic filariasis, subcutaneous filariasis & serous cavity filariasis. It usually involves the lung in the form of tropical pulmonary eosinophilia with pulmonary infiltrates&peripheral eosinophilia. Filariasis presenting as a pleural effusion is a rare presentation. Filariasis produces usually chylous effusion. Non-chylous type as noted in the present case is rare. The microfilariae in the pleural fluid have been described as rare case reports in the past years (Table 1).

Table 1 List of cases where pleural effusion due to filariasis is noted

Title	No. of cases	Author&year
Filariasis presenting as isolated pleural effusion: A case report and mini review	1	Phiza Aggarwal et al, 2021 (Sage journals)
Wuchereriabancrofti Infection causing pleural effusion.	1	Nishant Sinha et al, 2021 (Indian Journal of Respiratory Care)
Microfilariae in malignant mesothelioma associated pleural effusion with blood microfilaremia: a rare association.	1	Sharma DC et al, 2019 (International journal of advances in medicine)
Cytological diagnosis of microfilaria at unusual sites in clinically unsuspected cases; some rare presentations of filariasis	6	Shreekant Bharti et al, 2018 (Sage journals)
Filarial pleural effusion without peripheral blood or pleural fluid eosinophilia	1	Amitabh Das Shukla et al(2017) (BritishMedical Journal)
Filarial hydropneumothorax: a strange journey	1	Chakraborty A. et al, 2015 (British Medical Journal)

CONCLUSION

We hereby report a case of 80yrs male who presented with shortness of breath and clinically diagnosed with pleural effusion to be positive for microfilaria detected by pleural fluid cytological analysis.

So, this emphasizes the importance of thorough processing of all the fluid samples with mandatory centrifugation and making of sediment for detailed cytological evaluation and to examine carefully with high level of suspicion for microfilaria in endemic areas.

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