ORIGINAL RESEARCH PAPER

General Medicine

A RARE CASE OF TROPICAL PULMONARY EOSINOPHILIA.

KEY WORDS:

Dr. Kavya S T Professor, Dept of General Medicine, BMCRI, Bengaluru

Dr. Avinash H R Assistant Professor, Dept of General Medicine, SABVMCRI, Bengaluru

Dr. Prasannakumar P C Junior Resident, Dept of General Medicine, BMCRI, Bengaluru

Dr. Shanthkumar Shinde Junior Resident, Dept of General Medicine, BMCRI, Bengaluru

INTRODUCTION

TPE is a hyper-responsive pulmonary syndrome in response to trapped microfilaria within lung tissue.

It was described previously as pseudotuberculosis with eosinophilia. It is usually seen in endemic areas but recently due to immigration and globalization seen in non-endemic areas too.

According to WHO 120 million people are infected with lymphatic filariasis in tropical and sub-tropical countries. And the most common clinical presentation of this disease is elephantiasis.

Studies shows that only less than 1% of individuals with filariasis will develop TPE

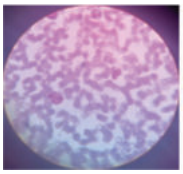
Case Presentation

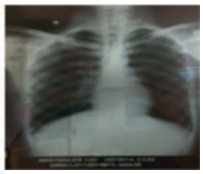
A 20 years old male patient who is non-smoker & non-alcoholic with no known co morbidities presented with complaints of cough associated with mild quantity of mucoid expectoration since 15days, fever since 15days, breathlessness since10 days initially of MMRC grade 1 progressed to grade 4 over a period of 10days.

On examination PR-112bpm, BP-110/70MMHG and sPO2 was 88% in room air. There was no pallor, icterus, cyanosis, clubbing, lymphadenopathy Respiratory examination revealed bilateral inspiratory and expiratory rhonchi in all lung fields and crepitations heard in bilateral mammary, infra-axillary and infra-scapular area. Other systems were normal

Investigations:

1. CBC-16.8/29,660/3.55
2. DLC- N-28.9,L-26.2,E- 40.2
3. AEC- 11920
4. ESR-05
5. CRP- 6.35
6. RFT- 18.4/1.1
7. S/E- 141/3.8/106
8. TB/DB- 0.36/0.09
9. AST/ALP- 16/16
10. TP/ALB- 8.5/4.4
11. PERIPHERAL SMEAR- Normocytic Normochromic With Leucocytosis With Eosinophilia
12. 3VM- NEGATIVE
13. SERUM IGE- >3000
14. STOOL FOR OVA CYST- NEGATIVE





15. CHEST XRAY- Normal study
16. HRCT THORAX- showed no significant abnormalities
17. PFT – suggestive of obstructive pattern with no post bronchodilator reversibility
18. ABG showed hypoxia
19. SPUTUM CULTURE- showed growth of Klebsiella species
20. FUNDUS- BEWNL
21. USG ABDOMEN- Hepatomegaly
22. 2D ECHO- Normal Study with no PAH, LVEF- 63.4%
23. MICRO-FILARIAL ANTIGEN TEST - Positive.

DISCUSSION

Tropical pulmonary eosinophilia is a distinct syndrome that is developed in some people infected with lymphatic dwelling filarial species. The disease affects less than 1% of patients with lymphatic filariasis, mainly young adult males[3]

In TPE, microfilaria and antigen are rapidly cleared by the lungs. The clinical symptoms result from allergic or inflammatory reaction elicited by cleared parasites. The pathogenesis is due to an exaggerated immune response to the filarial antigens which includes type I, type III and type IV reactions with eosinophils playing a pivotal role. Peripheral blood eosinophilia is usually striking with levels over 3000/□1 being common. High serum levels of IgE and filarial-specific IgE and IgG are also found.[2]

In some individuals, trapping of microfilaria in reticulo-endothelial system can cause hepatomegaly and splenomegaly or lymphadenopathy. Eosinophil rich intra alveolar infiltrate is common, in the absence of prompt treatment may lead to interstitial fibrosis.

The main clinical features include paroxysms of cough, wheeze, weight loss and low-grade fever and lymphadenopathy and pronounced blood eosinophilia[1]. Chest X ray may be normal in one fifth of cases[5]or may show increased broncho-vascular markings. PFT may show either restrictive which is most common or obstructive pattern.

TPE may present with atypical presentations like ILD, bronchial asthma, miliary tuberculosis or PAH[4]. These may confuse treating physician in diagnosis and treatment.

Treatment of TPE, DEC daily dosage of 4-6mg/kg for 14 days. Symptoms resolve within 3-7 days of initiation of therapy. Relapse may occur in 12-25% of patients who may require re-treatment.

REFERENCES

1. Loscalzo, Fauci, Kasper et al editors. Harrison's Principles of Internal Medicine 21st edition, McGrawHill Education, 2022
2. Mullerpattan JB, Udwadia ZF, Udwadia FE: Tropical pulmonary eosinophilia - a review .Indian J Med Res. 2013, 138:295-302.
3. Santeliz JV: Tropical pulmonary eosinophilia: an epidemiological and clinical

review. Int J Respir Pulm Med. 2019, 6:102. 10.23937/2378-3516/1410102
4. Behera PK, Tripathy KP, Vats A, Sengupta P, Chaitanya Y.Tropical Pulmonary Eosinophilia Masquerading as Interstitial Lung Disease: An Interesting Case Report with Review of LiteratureJ Clin of Diagn Res.2022; 16(6):OD04-OD06 https://www.doi.org/10.7860/JCDR/2022/56015/16443
5. Datta A, Chhotray P, Jena B, et al. (January 29, 2023) A Case of Tropical Pulmonary Eosinophilia With Incomplete Response to Diethylcarbamazine Therapy. Cureus 15(1): e34359. doi:10.7759/cureus.34359