

Case Report

Paragonimiasis

Purabi Barman* and Sengupta Sharmila

Barman Purabi, MD (Microbiology), B L Kapoor Hospital, Pusa Road, New Delhi:110005, India.

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Paragonimiasis is foodborne parasitic infection which occurs due to ingestion of undercooked crustaceans. The disease is prevalent in Southeast Asian countries, Africa and America. Though it is endemic in some parts of India, however it is still not regarded as a public health concern; the disease is often misdiagnosed as Tuberculosis. Here we present a case of haemoptysis which was treated for Tuberculosis for quite some time and later diagnosed as pulmonary Paragonimiasis. More awareness needs to be created about this clinical entity and patients presenting with Tuberculosis like symptoms needs to be screened for Paragonimiasis.

Key words: Paragonimiasis, haemoptysis, tuberculosis, disease, endemic.

INTRODUCTION

Paragonimiasis is common in Southeast Asian countries with endemic foci also in some parts of India. (TS Singh et al., 2009; TN Singh et al., 2004) Though it has been described as an endemic disease of Southeast Asia, however it is also present in non Asian countries such as Africa and America. (Procop, 2009) The clinic- radiological features mimics tuberculosis (TB) which is rampant in India and hence most of the time the disease is misdiagnosed as TB and treated as smear negative TB thus leading to misuse of antitubercular drugs. TS Singh et al (2009) in his study has stated that prevalence of paragonimiasis is high (50%) in Nagaland, one of the northeastern states of India and most of these patients actually present in a TB clinic. A lack of awareness and clinical knowledge about this entity is prevalent amongst clinicians and therefore the disease is underreported. Available statistics represents just tip of the iceberg of the problem.

Paragonimiasis is a foodborne parasitic infection. The natural definitive host is wild mammals of the canidae and felidae family and humans. Intermediate host are a wide range of fresh water host snails, crabs and cray fish. Humans are infected by ingestion of the undercooked crustaceans. In India, paragonimiasis is seen more in the northeastern part of the country where crustaceans are included in the diet. However it is still not considered a

public health problem in India. (TS Singh et al., 2012) Mahajan (2005) has described paragonimiasis as an emerging public health concern in India and the need to raise awareness amongst health providers.

Here we report an interesting case which was referred from a state level hospital with haemoptysis and no definitive diagnosis.

Case report

Patient was a young male, aged 27 years and presented with history of haemoptysis, breathlessness and chest pain on and off for last 5 to 6 months. He was a resident of Northeast India. Earlier he had consulted another tertiary care center in where he was evaluated for TB. His chest CT scan showed areas of consolidation with adjacent reactionary fibrosis and early bronchiectasis in right middle lobe. There were no signs of active pulmonary disease or enlarged or metastatic lymph nodes. His sputum sample was negative both for acid fast bacilli in smear and culture. He was empirically started on Anti tubercular treatment (ATT). His symptoms however did not regress even on ATT for 3-4 months and that was when he was referred to our hospital in New Delhi. On admission, his general condition was stable. His blood smear examination revealed total leukocyte count of 6700/ cubic millimeter, differential count was 40% neutrophils, 40 % lymphocytes, 18% eosinophils and 2% basophils. Total IgE was raised at 462 IU/ml; red

*Corresponding author. E-mail: purabi.barman@gmail.com.

cell count was 4.12million/ microlitre, haematocrit 39.4 % and hemoglobin was 13.4grams/decilitre. Chest X ray revealed non-homogenous opacities in right pericardia which was suggestive of pneumonitis. Bronchoscopy did not reveal any abnormalities. He was empirically started on ertapenem and clindamycin. The bronchoalveolar fluid (BAL) was evaluated in the microbiology laboratory for tuberculosis, fungus or any other significant bacterial infections and reported as normal. No granulomas or atypical cells were seen in his BAL specimen. The increased eosinophil and IgE count however raised the suspicion of an allergic or a parasitic entity. Working on this suspicion the BAL was screened for ova or parasites which were not found. The stool sample also did not reveal any ova or cysts. Later on, eliciting a careful dietary history it was found that patient was a non – vegetarian and regularly consumed crabs. This led to a more intensive screening of his sputum samples for any ova or parasites. The diagnosis of pulmonary paragonimiasis was made when ova of *Paragonimus* species was found in third sputum sample. Patient was then started on praziquantal 25mg/kg body weight for three consecutive days and he improved on follow up and was discharged.

DISCUSSION

Paragonimiasis is a serious disease entity and can present as both pulmonary and extra pulmonary form. (TS Singh et al.,2012) Haemoptysis is a major clinical symptom and the disease often mimicks tuberculosis and misdiagnosed as such. This case has emphasized the importance of differential diagnosis between TB and paragonimiasis. Eliciting a detailed history and good laboratory services is essential for establishing diagnosis. Many modalities of diagnosis are available but simple microscopy is the most reliable. The ova was detected on the third consecutive sample and may need several samples (upto seven) (Mahajan, 2005) for detection of ova. Diagnosis can be made based on finding of eggs in sputum, faeces or other respiratory samples. Microscopy is less sensitive and requires technical expertise and experience. Other diagnostic tests like ELISA for detection of antigens are available

and is suggested that all patients presenting with TB like symptoms should be screened by ELISA in endemic areas.(Narain et al.,2005)Caution must be taken while interpreting the results as most of these immunological tests present cross reactivity to other trematodes. (Mahajan, 2005) Laboratory findings like eosinophilia and raised IgE should raise suspicion of parasitic etiology in patients presenting with respiratory symptoms mimicking chronic disease like TB. The importance of detailed history and awareness of such emerging infectious diseases will help in clinching the diagnosis earlier. Clinician should be more aware of such emerging infectious diseases and a combined effort between the clinician and the clinical microbiologist is essential. This will also lead in avoiding expensive and invasive investigations like bronchoscopy which unnecessary exposes such patients to other hazards. Moreover public health measures in areas of endemicity should be emphasized.

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