Endemic Hemoptysis

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Introduction

Paragonimiasis is endemic in East Asia, West Africa, Central and South America [1]. *P. westermani* is the predominant pathogen in Asia and Africa while other species (e.g. *P. mexicanus*, *P. kellicotti*, *P. caliensis*) occur in the American subcontinent. Most cases are imported from these locations [2,3]. The clinical findings in paragonimiasis resemble those of pneumonia, bronchitis, bronchiectasis, pleuropulmonary tuberculosis, epilepsy or cerebral space-occupying lesion. The diagnosis should be suspected in cases with pulmonary symptoms from an endemic area, including persons with normal chest radiograph and those with radiograph suggestive of tuberculosis. We report two cases of paragonimiasis who presented with hemoptysis.

Case 1

An 18 year old recruit, a resident of Manipur was hospitalised with seven days history of productive cough, frequent episodes of hemoptysis, right sided pleuritic chest pain and irregular fever. Initially he was managed with parenteral antibiotics as the chest radiograph revealed non homogenous opacity over the right lower zone. His cough, fever and chest pain subsided but he continued to have hemoptysis (10-15 ml of "rusty" sputum) everyday. On further questioning, he gave history of consuming raw crabs since childhood. General and systemic examination was unremarkable. On investigation, erythrocyte sedimentation rate was 22 mm fall in the 1st hour, haemoglobin 13.5 gm%, total leucocyte count 7,600/cmm, differential leucocyte count of polymorphs 62%, lymphocytes 32 %, monocytes 2% and eosinophil 4 %. Sputum was negative for acid fast bacilli (AFB) and positive for ova of *P. westermani*. Stool microscopy was negative for ova of *P. westermani*. Mantoux test was negative. Chest radiograph and tomogram revealed cystic lesions right lower zone (Fig.1). Computerised tomography scan thorax revealed a cavity in right lower lobe (Fig.2). He was managed with tablet praziquantel 25 mg/kg thrice a day for two days with uneventful recovery. He remained

asymptomatic and was followed up for next one year. Chest radiograph after six months revealed minimal fibrosis right lower zone.

Case 2

A 36 year old soldier, nonsmoker, resident of Manipur was hospitalised for evaluation of hemoptysis. One year back he was exhibited antitubercular treatment under the assumed diagnosis of pulmonary tuberculosis. He had no other

Fig. 1 : Tomogram showing nodular opacity right lower zone.

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Fig. 2 : CT scan thorax shows cavity right lower lobe.

symptom. He was having thick rusty expectoration and coarse crepitations in the right infrascapular region clinically. Chest radiograph revealed infiltrates and fibrocystic lesions in the right middle zone. He gave history of consuming cooked and raw fresh water crabs since childhood. Blood counts were normal. Sputum smear for AFB and mantoux test were negative. Sputum was positive for the ova of *P westermani*. The patient was managed with tablet praziquantel 25 mg/kg thrice a day for two days with gratifying results. He was followed up for one year without recurrence of symptoms. Chest radiograph after six months revealed fibrotic lesion right lower zone.

Discussion

Humans can get infected with paragonimus species by ingestion of raw, pickled, or improperly cooked fresh water crabs or cray fish [4], that contain encysted metacercariae. After ingestion, the parasite excysts in the duodenum and sequentially passes through the peritoneal cavity, diaphragm, and pleural cavity to the lung. The expectorated/swallowed eggs that are deposited in fresh water sites harbouring the appropriate first and intermediate hosts (snails and crustaceans, respectively) complete the life cycle [1,5]. Chest radiograph may reveal nodules, cavitations, fibrosis and areas of calcification [6,7]. A typical radiographic finding is that of a ring shaped opacity (5-10cm), comprising of several small contiguous cavities that give the appearance of a bunch of grapes [7,8]. Repeated sputum and stool examination is necessary for greater diagnostic yield.

Serologic testing (Western Blot test) is important in egg-negative pulmonary paragonimiasis or cerebral paragonimiasis[8].

In females, praziquantel therapy warrants special considerations[9]. Triclabendazole 10 mg/kg PO b.i.d. for one day is an alternative treatment while some cases of pulmonary or cerebral paragonimiasis may need surgical treatment[10,11]. Close relatives of the patient should be examined for infection due to common dietary exposure.

Conflicts of Interest

None identified

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