

CASE REPORT:

A CASE REPORT OF PLEURAL EFFUSION PARAGONIMIASIS

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Abstract:

We report the case of *Paragonimus westermani* infection with pleural effusion and thickening. The female patient 25 years old from Laos was hospitalized with hemoptysis, left chest pain and dyspnea. She was examined by chest X-ray, CT scan, and microbiology. Her total WBC has an increased eosinophilic percentage (22%). Parasitological examination revealed egg of *Paragonimus westermani* in pleural effusion. Final diagnosis was pleural effusion caused by *Paragonimus westermani*. The patient was treated with Praziquantel 25mg/kg x 3 time/day x 2 days with very good result.

Key words: *Paragonimus westermani*, paragonimiasis, pleural effusion

1. INTRODUCTION

Lung fluke infections caused by *Paragonimus spp.* are estimated to affect over 6 million people world –wide. *Paragonimus* infections in human are found in many areas of the world, including Asia, Africa and South America but it is common in Southeast Asia, especially in Japan, Korea, the Philippines, Taiwan and parts of China [2,3,4]. In Vietnam, this disease has been reported in some areas such as: Lao Cai, Lai Chau, Son La, Yen Bai, Lang Son, Hoa Binh, Nghe An.... [6,7]. About 48 species of *Paragonimus* have been described and at least 16 of these infect humans. *Paragonimus westermani* is the most common species infecting humans [4]. Paragonimiasis is transmitted to human by eating of raw or undercooked freshwater crabs or crayfish infected with the metacercariae of larval stages. The adult forms of *Paragonimus westermani* often live in lung for 10-20 years. Each cyst in the lung typically encloses from two to four worms, and the cyst wall contains fibroblasts, macrophages, eosinophils,

lymphocytes, and plasma cells. These things cause pneumothorax respiratory symptoms. However, this parasite may migrates ectopic foci such as the central nervous system, the gastrointestinal tract, and the subcutaneous tissues. It is difficult to diagnose in these cases [1,2,3,4,5,8].

2. CASE REPORT

A 25 - years - old Laotian woman was living in Seelen District, Champasac Province, Laos. She did a small business in the border between Laos and Vietnam. She was admitted to Hue Medicine and Pharmacy of Hospital on September 21, 2007 of symptoms of hemoptysis, left chest pain and dyspnea. She had five months history of fatigue, malaise, fever, cough, left chest pain and dyspnea. Although she visited twice a clinic in Thailand to treat, her illness didn't get better. She habitually ate pickled crustaceans (crabs or crayfish).

At the Internal medicine department, she was examined and was initially diagnosed as left pleural effusion with unknown etiology.

Her laboratory tests were complete blood cell count, echography of chest and abdomen, X-ray chest, CT scan of chest and pleural fluid examination (including biochemistry, microbiology, parasitology and pathology). The results were as follow: her total WBC count was 6.5×10^9 cells/ml, with 22% eosinophilia, a chest radiograph revealed bilateral pleural thickening, a chest echography showed left pleural effusion with a mass size 77 x 46 x 22

mm and thickening, chest CT scan described a left pleural effusion. A pleural fluid analysis showed a negative with Rivalta reaction, bacteria and tuberculosis. Parasitologic examination revealed egg of *Paragonimus spp.* in pleural fluid (figure 1). Final diagnosis was pleural effusion caused by *Paragonimus spp.* She was treated with praziquantel 25mg/kg given three times daily for two days and her symptoms improved over two days.



Figure 1. The egg has 45x (80 -120) μ m with operculum

3. DISCUSSION

Paragonimiasis is uncommon disease, so it is easy to misdiagnose. Furthermore, the fluke may migrate to the brain, the subcutaneous tissues... and it is difficult to diagnose in these cases. Human with paragonimiasis usually present with fever, cough, together with presentation of hemoptysis, can be misdiagnosed as tuberculosis, which leads to wrong treatment and adversely affects the health of patient [2,4,5]. The feature is different between these disease is that lung lesions cause by *Paragonimus spp.* often locate in lower lobe and by contract

in upper lobe with cause by *Mycobacterium tuberculosis*. Cough is a suggestive symptom, especially coughing up blood for a long time. Symptoms are usually chronic, but they may become acute, sometime the patient's health has not changed significantly. Pleural effusion occur when the fluke parasited inside the pleural space. This feature recures rapidly after a removing the fluid from the pleural space and it is often accompanied by eosinophilia [5,7,8]. Paragonimiasis has been reported in Vietnam, so it is necessary to ask about medical history, habitual diet of patients who have symptoms such as coughing up

blood and pleural effusion. Revealing eggs in sputum, stools and pleural fluid samples is a good standar to diagnose paragonimiasis. Praziquantel has been used specifically for paragonimiasis with dose 25mg/day given orally 3 times daily for 2 days. Its side- effect is reasonable, including headache, nauseous and fever. Cure rates of over 95% have been reported. Triclabendazole is also a effective

drug with single dose [2,5].

In summary, paragonimiasis may misdiagnose as tuberculosis in Vietnam because this is rare disease and some clinics don't have much experience. Therefore, clinical doctors should consider the possibility that patients who had symptoms with cough, fever, hemoptysis and eosinophilia may infected with *Paragonimus spp.*

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