

An Iraqi Woman with a Rare Cause of Hemoptysis in Kirkuk Kerkük'te Iraklı Bir Bayan Hastada Nadir Bir Hemoptizi Nedeni

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Abstract

This report is a case-study of a 21 years old female student with history of cough, hemoptysis twice with wheezy chest. On sputum examination, yellowish brown eggs were detected.

Key Words: Hemoptysis, sputum, respiratory tract diseases

Öz

Bu olgu sunumunda, öksürüğü, hırıltılı solunumu ve iki kez hemoptizi hikâyesi olan 21 yaşındaki öğrenci bayan hastamızı sunmak istedik. Hastanın balgam materyali incelendiğinde, sarımtırak kahverengi yumurtalar tespit edilmiştir.

Anahtar Kelimeler: Hemoptizi, balgam, solunum yolu hastalıkları

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Introduction

Paragonimus westermani, which is the major species of the lung fluke, is an oval or pear-shaped, pink to reddish brown parasite causing paragonimiasis. It is found in cysts in the lungs and sometimes in the pleura, liver, and abdominal cavity and elsewhere.¹ The clinical findings in paragonimiasis resemble those of pneumonia, bronchitis, bronchiectasis, pleuropulmonary tuberculosis, epilepsy or cerebral space-occupying lesion.²

The most common form of the disease is pulmonary paragonimiasis, while pleural effusion and subcutaneous nodules are the common extra-pulmonary forms. The adult is thick, fleshy, oval-shaped and reddish-brown in colour with an integument covered with scale-like spines. It resides usually in pairs in the cystic cavities in the lungs of man and other definitive hosts.³

Paragonimus westermani is endemic in eastern and southern Asia, western Africa and South America. The natural definitive hosts of the parasite are wild canidae and felidae families and human beings. The intermediate hosts are snails and crabs as well as crayfish served as the first and second intermediate hosts respectively.⁴

Human infection results from ingestion of uncooked or pricked fresh water crab or crayfish harbored metacercaria, larval stage of the parasite.⁴ The time required for their development in humans is 65-90 days. Eggs are expelled in the sputum, or may dislodge by coughing, they are regurgitated and pass in feces.^{3,5}

In a study in Pftusero, Nagaland, it has been revealed that paragoniamiasis has been endemic in the region and half of the patients were suffering from pulmonary paragonimiasis.⁶ In a 40 years old women with non-hodgkin lymphoma, characteristic eggs of the parasite were proved in the broncho-alveolar lavagefluid.⁷ A case of *P. westermani* was also diagnosed in the North-Central United States, with dyspnea, chest pain, bilateral pneumonia with marked eosinophilia.⁸

Diagnosis is usually made by the detection of the eggs in sputum or feces. The sputum is blood-tinged. Serological tests are useful for detection of antibodies and for differentiation with tuberculosis. Chest X-ray can be used to show the worms, but it is usually misdiagnosed with pulmonary infections as tuberculosis, pneumonia or spirochetosis. Bronchoscopic examination and serologic tests are very useful for accurate diagnosis.⁹

Treatment is achieved by Praziquantel which is the most common and effective drug to treat and is the drug of choice. Bithionol is an alternative drug, but it has many side effects.³

Case-report

A 21 years old single lady was presented with history of cough, sputum for one month associated with dyspnea, hemoptysis twice, wheezy chest, and epigastric pain. The condition was not associated with vomiting, fever, weight loss, bleeding. Normal menstruation cycle was present till the day of presentation. She was normal apart from hemoptysis which was the reason that lead the patient to seek medical advice.



Fig. 1. Egg of *Paragonimus westermani*.

Diagnosis was made based on the microscopic finding of *Paragonimus* in sputum. The serology for paragonimiasis and *Mycobacterium* culture were not performed because they were not readily available.

On reviewing the history; it was revealed that the patient neither had a previous history of the same condition nor had history of chest infection, tuberculosis, worm passage and none from the family members had such history.

On examination; she was mildly anemic with wheezy chest, no edema, cyanosis, and tachypnea. Her respiratory rate was 18, with mild dyspnea, no palpable lymph node was felt / nor any mass could be detected in the neck, or epigastric region.

Temperature was 37.2 °C, pulse rate was 82 bpm, blood pressure was 110/70 mm Hg.

Complete blood count (CBP) showed very high eosinophil count (7%), chest X-ray showed prominent pulmonary vessels, direct sputum smear for AFB was negative. Polymerase chain reaction using Gene X pert-MTB-RIF (Cepheid) was also negative, the sputum examination for other probable existing microorganisms revealed the classical yellowish brown ova of food borne *Paragonimus westermani* (Fig. 1).

Treatment was started with Albendazole (Zentel) tablet as 200 mg for 3 days. The patient got well and was followed up for one month.

Discussion

In the past, human paragonimiasis was not considered a problem of public health importance in many parts until recently. Pulmonary paragonimiasis presenting with bloody sputum or recurrent hemoptysis was detected from sputum smear negative pulmonary tuberculosis or some other serious conditions with similar symptoms.⁴

Although pulmonary paragonimiasis is rare in Iraq, it needs high index of suspicion among patients complaining hemoptysis with non-specific symptoms, due to which its diagnosis is usually delayed. Living in unhygienic status in students' residences increases the risk of exposure to unusual infections as current case of pulmonary paragonimiasis, presented as hemoptysis which may be due to the ingestion of improperly cooked fish. A similar case was reported for a 40 years old native Indian woman with non-Hodgkin lymphoma and hemoptysis.⁷

In another case of an African-born man, the diagnosis was made as pulmonary paragonimiasis, but the species identification could not be established following chronic recurrent hemoptysis and the disease was treated successfully by praziquantel in a three days' course.¹⁰

It is concluded that although this condition is not frequently documented in Kirkuk, it exists in tropical regions due to expanded commercial trading, immigration, unlimited borders and travelling abroad with alteration in eating behaviors.

It is recommended to think of paragonimus as a cause of hemoptysis in tropical regions among patients with negative direct sputum smear test of Acid Fast Bacillus staining and other sophisticated methods, like enzyme-linked immunosorbent assay (ELISA) and Polymerase chain reaction (PCR).

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