

## A case of pulmonary paragonimiasis misdiagnosed as tuberculosis

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**Introduction:** Paragonimiasis is caused by ingesting *Paragonimus westermani*-infected crabs and might manifest symptoms resembling pulmonary tuberculosis, including recurring cough, sputum, night sweats, and fever. This case illustrates pulmonary paragonimiasis, which was initially misdiagnosed as tuberculosis.

**Case report:** A 63-year-old female with well-managed asthma, not requiring inhalation therapy, underwent a chest computed tomography (CT) scan 3 years ago, which showed opacities in the left upper lobe and left lower lobe (Figure 1-A). Follow-up X-ray and CT showed increased lesion size (Figure 1-B). A percutaneous needle biopsy yielded negative AFB stain and TB PCR results, but the presence of chronic granulomatous inflammation led to tuberculosis treatment initiation. However, a follow-up chest x-ray after 4 months showed increased consolidation in the LUL. Although this finding was considered a paradoxical response, the patient was admitted to our hospital for a second opinion and further evaluation. The initial lab data indicated eosinophilia with a WBC count of 4800/ $\mu$ L and an eosinophil percentage of 11%. To determine the cause of eosinophilia, tests for toxocariasis and paragonimiasis were performed. Pulmonary Function Tests and Fractional exhaled nitric oxide (FENO) measurements were conducted and showed normal results. The repeat Chest CT revealed wax and wane nonspecific focal pneumonia, raising suspicion of a parasitic infection. The serum paragonimiasis test was positive (5.75) and the paragonimus egg was identified in the percutaneous biopsy specimen (Figure 2). The patient was diagnosed with paragonimiasis and started praziquantel treatment (25mg/kg orally, thrice daily for 2 days). The Patient is currently on outpatient care, and serial chest CTs show improvement after treatment (Figure 1-C).

**Conclusion:** Empirical treatment may be considered in cases of uncertain tuberculosis diagnosis, but it is essential to explore alternative conditions when tuberculosis is not definitively confirmed. Paragonimiasis could be considered a potential diagnosis in cases with fluctuating pulmonary infiltrations and eosinophilia.

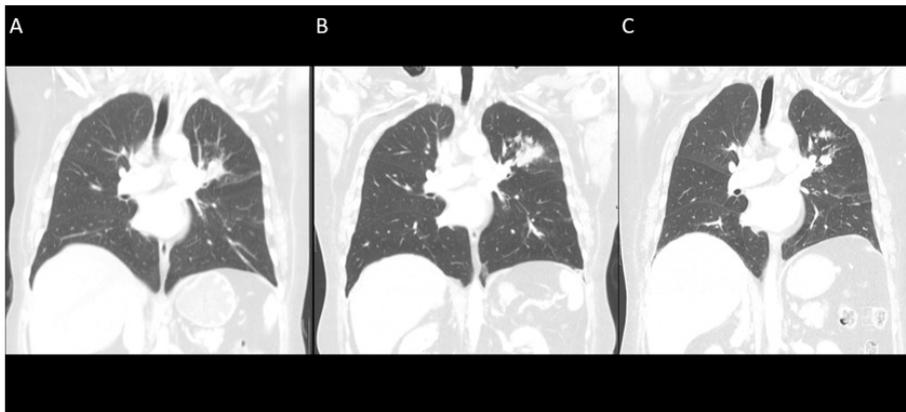


Figure 1. A. This radiologic abnormality was initially detected during a health check-up. B. Despite tuberculosis treatment, the follow-up CT scan showed an increase in the size of the lesion. C. After receiving praziquantel treatment, the patient showed improved clinical outcomes during regular outpatient visits.

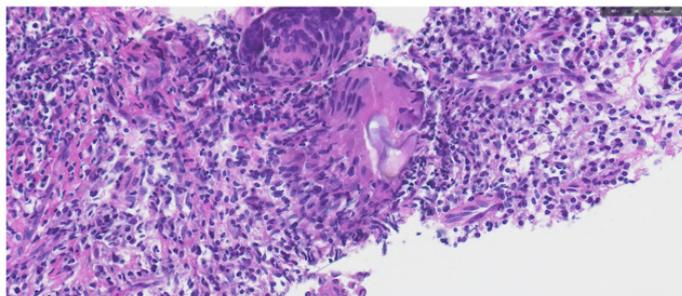


Figure 2. *Paragonimus westermani* eggs were detected in the pathology slide obtained from the PCNB procedure.