



## Misled by significant peripheral eosinophilia and travel history: a case of chronic cavitary pulmonary *Aspergillosis* misdiagnosed as a ruptured *Echinococcus* cyst

Whitney Elg-Salsman, DO; Anna Brady, MD  
Oregon Health & Science University

### Introduction

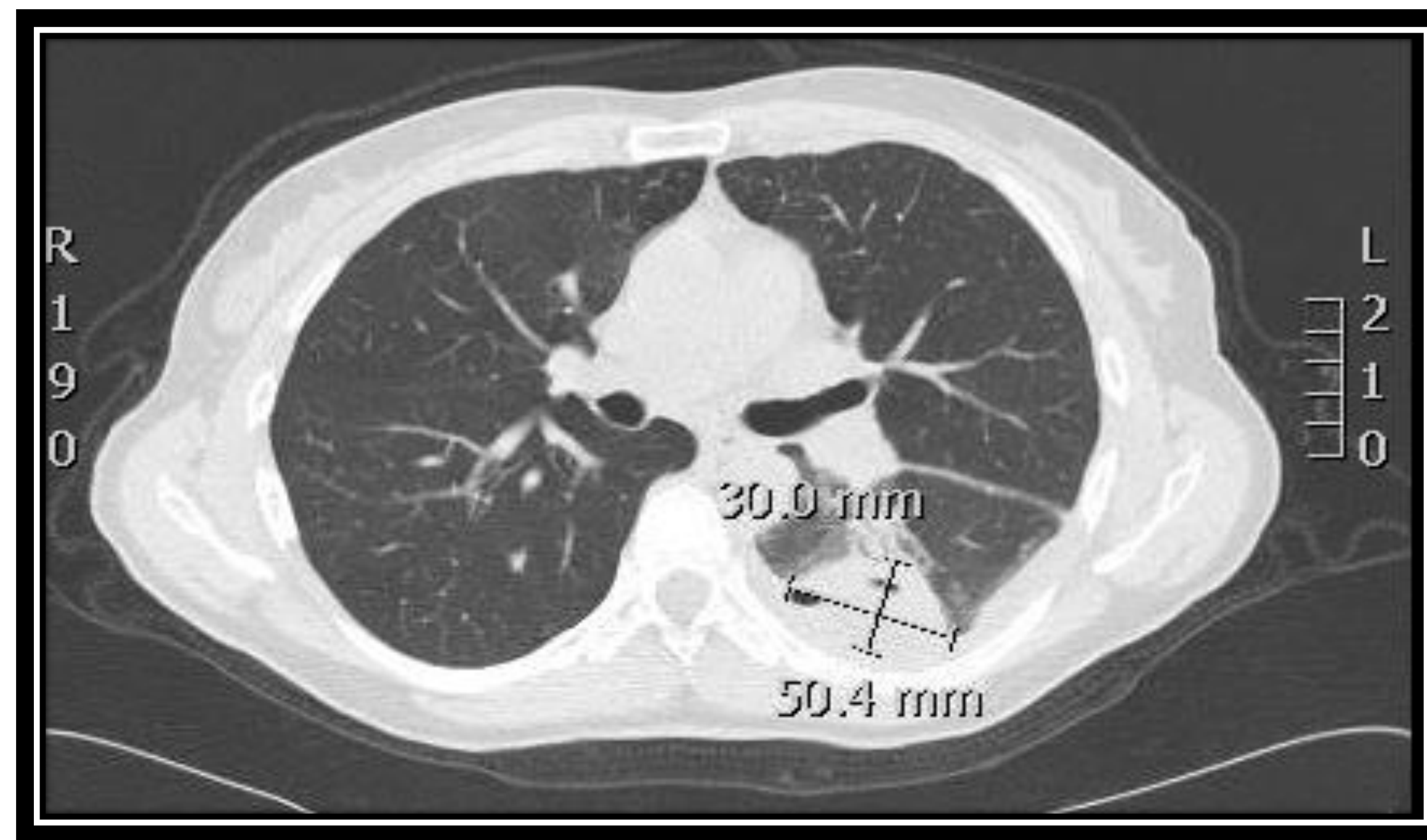
Chronic cavitary pulmonary *Aspergillosis* (CPA) is characterized by cavitary lesion(s), elevated IgG titers to *Aspergillus* +/- elevated total IgE and *Aspergillus* IgE. This case illustrates the importance of keeping *Aspergillus* infection on the differential with significant pleural eosinophilia and cavitary lung lesion

### Case Description

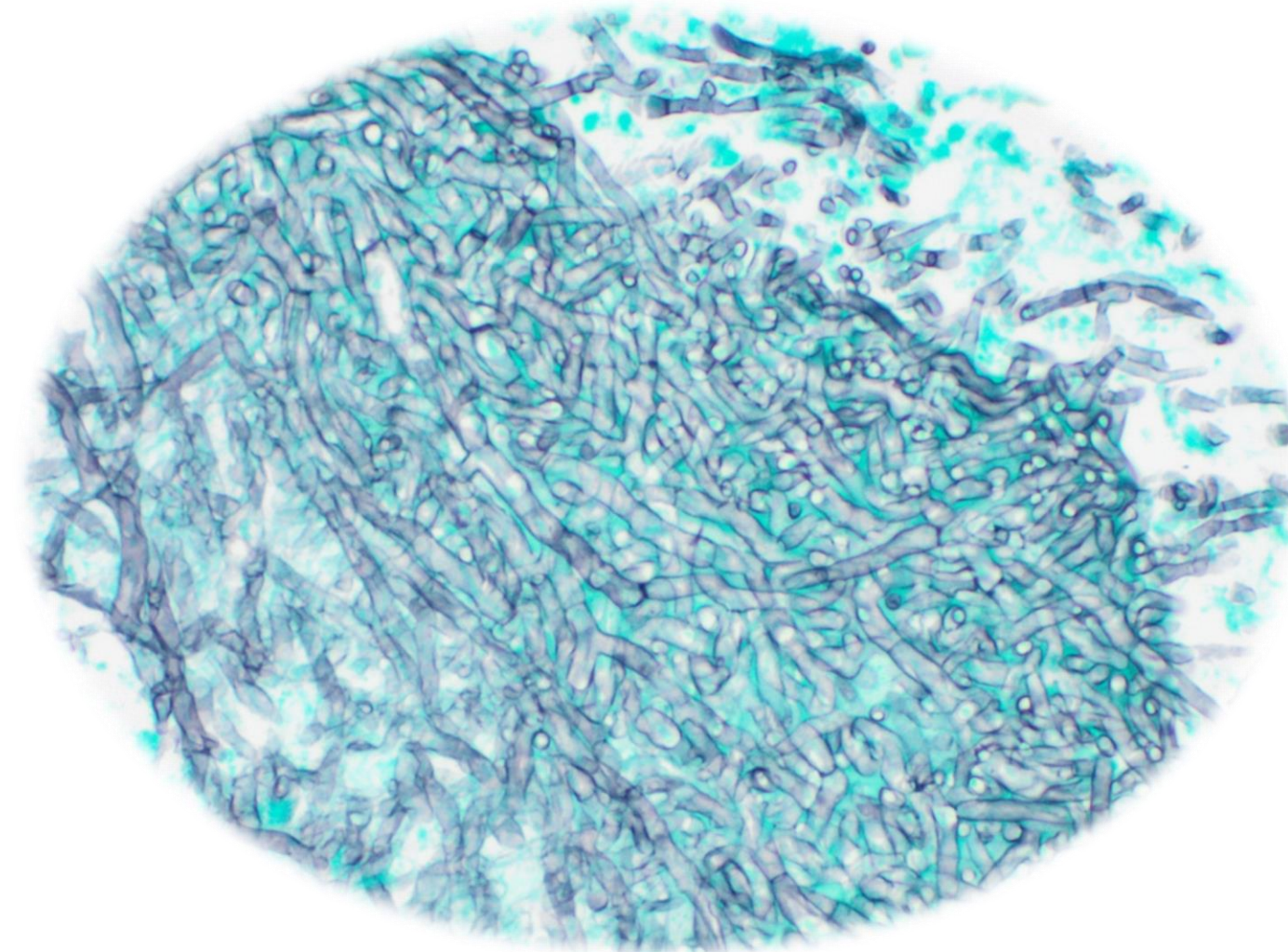
A 53-year-old non-smoking woman with well controlled allergic asthma presented to the hospital with three days of dyspnea without infectious symptoms. She reported prior travel including wild animal exposure in Chile, Romania and recent mold/dust exposure due to neighbor's renovation.

- Physical exam revealed crackles and diminished breath sounds at left base
- Labs: WBC 26 with eosinophilia (42%), elevated IgE (2,000)
- Imaging: CT: hydropneumothorax with a left lower lobe (LLL) cavitary lesion.
- Thoracic surgery was consulted and placed a chest tube.
- Pleural fluid: consistent with empyema and significant eosinophilia (84%)

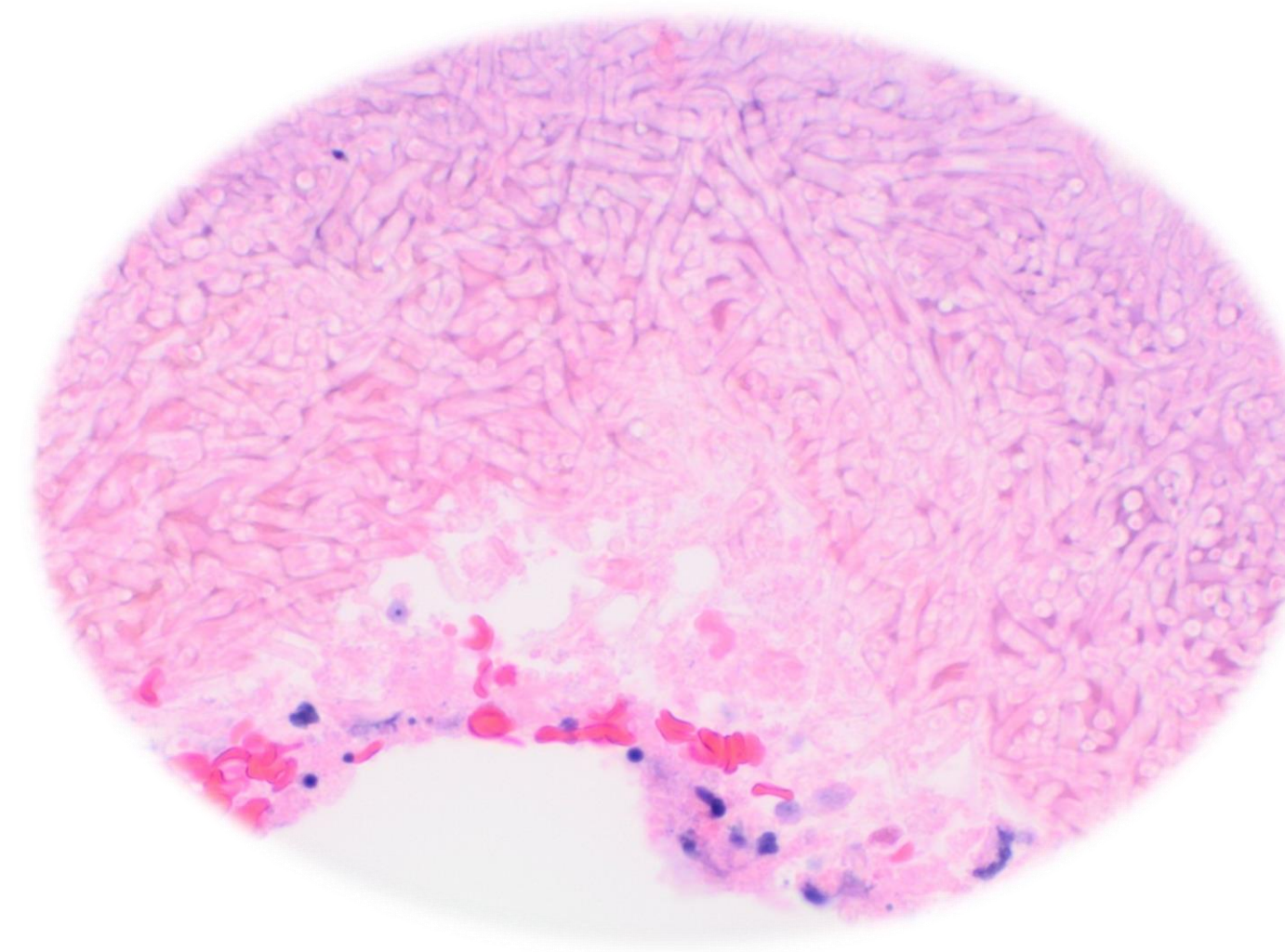
### Imaging



CT: LLL cavitary lesion and new LLL ground glass opacities and consolidation accompanied by a small pleural effusion



GMS stain: showing *Aspergillus* fungal hyphae with uniform septated hyphae, and branching at 45°



HE stain: Thick fibrotic wall with a dense eosinophilic exudate/infiltrate and *Aspergillus* sp

### Hospital Course

- Pulmonary and infectious disease were consulted
- Started Albendazole for empiric coverage of *Echinococcus*
- Discharged 4 days later after pigtail drain was removed
- Re-presented with persistent non-productive cough
- Labs: Eosinophilia 36%, and positive *Aspergillus fumigatus* IgE antibody, & negative *Echinococcus* IgG
- Bronchoscopy: Eosinophilia 80%, Charcot Leyden crystals, negative fungal, AFB and Galactomannan
- ID started prednisone and ivermectin for *Strongyloides* coverage and praziquantel for coverage of alternate parasites including *Paragonimus*
- Due to persistent symptoms patient underwent left lobectomy with cultures revealing *Aspergillus fumigatus*
- Patient was placed on 4 week course of Voriconazole to help prevent pleural seeding with resolution of symptoms and peripheral eosinophilia

### Discussion

*Aspergillosis* can have a diverse clinical presentation from non-invasive Allergic Pulmonary *Aspergillosis* (ABPA), semi-invasive chronic cavitary *Aspergillosis* to invasive. Her clinical presentation has aspects of both ABPA (allergic asthma and total elevated IgE) and chronic, semi-invasive cavitary *Aspergillosis*.

### Take Home Points

1. Differential for pleural fluid eosinophilia includes: infection (TB, fungal, parasite), malignancy, Eosinophilic granulomatosis with polyangiitis, medications, hemothorax and pneumothorax
2. Keep *Aspergillus* on the differential in the workup of a cavitary lung lesion especially with elevated IgE and peripheral and pleural eosinophilia

### References

Patterson, K.C. and M.E. Streck, *Diagnosis and Treatment of Pulmonary Aspergillosis Syndromes*. CHEST, 2014. **146**(5): p. 1358-1368.