

Introduction

- A 30-year-old patient presented to the ED with several weeks of productive cough, low-grade fever, and dyspnea. She migrated from Guatemala 3 years ago.
- Vitals were stable except for tachycardia and rhonchi of left lung fields. CT chest showed airspace disease of the left lung and consolidation of the right middle lobe. Blood cultures were sent and she was treated with Azithromycin and Cefdinir.

Admission #1

- 2 days later, she returned to the ED as her blood cultures grew Coagulase neg Staph aureus. She met 4/4 SIRS criteria without oxygen requirement and was admitted for severe sepsis. Vancomycin, Flagyl, Doxycycline, and Cefepime were given. Infectious diseases and pulmonology were consulted.
- She improved clinically over 5 days, with no growth on repeat blood cultures. She was discharged on 2-weeks of antibiotics.

Admission # 2

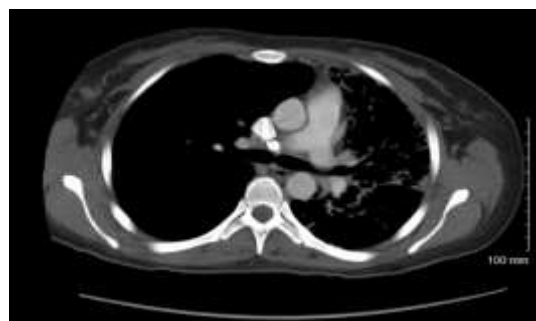
- At her 1-week PCP follow-up, she was noted to be febrile, tachycardic, tachypneic, hypoxic to 85% requiring 2 L of oxygen.
- Physical examination remained unchanged. Repeat CT chest showed worsening necrotizing pneumonia, left > right
- She was readmitted for severe sepsis and worsening PNA. ID and pulmonology were reconsulted.
- Extensive workup for pneumonia including an autoimmune panel, immune status, and bronchoscopy was done.
- Serially induced sputum was positive for acid-fast bacilli and scant candida albicans but QuantiFERON-GOLD negative.



CT before treatment

Outcome

- Given our high suspicion of tuberculosis, we started her on quadruple therapy and IV stress dose steroids.
- She clinically improved with good air entry bilaterally. Repeat CXR and CT scan showed resolving necrosis and patchy disease of the left lung
- Sputum culture later confirmed Mycobacterium Tuberculosis.



CT after treatment

Discussion

- Necrotizing pneumonia (NP) is commonly caused by Staph aureus and Strep. Pneumonia (1), less commonly due to Klebsiella and Hemophilus species (1). NP is seen in both adults and children (2).
- Primary tuberculosis presents as enlarged mediastinal/hilar lymph nodes with central necrosis. Reactivated TB has thick-walled cavities and a tree in a bud pattern.
- However, NP has been associated with tuberculosis among children living in areas with high TB and HIV prevalence (2). Only a few similar cases have been noted in adults (3).
- Our patient came from a region with a high prevalence of TB and HIV, and although it is predominantly described in children, it is important to consider it in our differential diagnosis.
- This will aid in early detection, prevent diagnostic delay, initiate treatment, and decrease hospital stay.

References

1. Chatha N, Fortin D, Bosma KJ. Management of necrotizing pneumonia and pulmonary gangrene: a case series and review of the literature. *Can Respir J*. 2014 Jul-Aug;21(4):239-45. doi: 10.1155/2014/864159. Epub 2014 May 2. PMID: 24791253; PMCID: PMC4173892.
2. Jacobs C, Goussard P, Gie RP. Mycobacterium tuberculosis, a cause of necrotizing pneumonia in childhood: a case series. *Int J Tuberc Lung Dis*. 2018 Jun 1;22(6):614-616. doi: 10.5588/ijtld.17.0570. Epub 2018 Mar 22. PMID: 29566781.
3. Nguyen HL, Duong Thanh H, Le TV, Tran Van N. Mycobacterium tuberculosis-Associated Necrotizing Pneumonia With Adjunctive Corticosteroid Therapy. *Case Rep Infect Dis*. 2019 Jul 1;2019:9068516. doi: 10.1155/2019/9068516. PMID: 31355026; PMCID: PMC6636569.