A Clinical Vignette of *Candida parapsilosis Empyema Thoracis*

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Abstract

Background: *Candida* empyema thoracis is a rare invasive candidiasis with poor prognosis. While more deadly in immunocompromised patients, it also occurs in the immunocompetent. There are no guidelines on treatment due to lack of research, but case reviews have shown antifungals, drainage, and surgery to be effective therapies.

The Case: A 63-year-old male with a past medical history of pulmonary emboli developed worsening left-sided chest pain associated with shortness of breath and productive cough that was occasionally blood-tinged. Extensive imaging and thoracentesis confirmed an expanding left-sided parapneumonic effusion that was drained and found to grow *Streptococcus anginosis* and *Candida parapsilosis*. A chest tube was placed and after multiple rounds of intrathoracic tPA the patient gradually improved following progressive removal of effusion and IV antibiotics and antifungals. The patient was then discharged with the remainder of his 18-day course of amoxicillin-clavulanate and fluconazole, with follow up imaging scheduled in the outpatient setting.

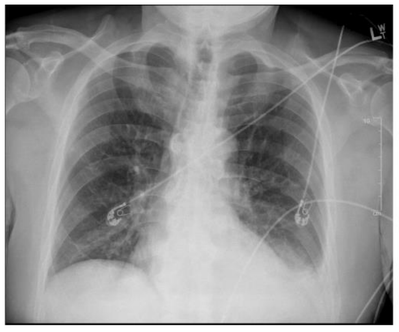
Conclusion: Given the paucity of studies on Candida empyema, there are no definitive treatment guidelines or recommendations for this deadly infection. A 2021 retrospective study of 81 patients with Candida empyema at two academic centers posited that optimal management included pleural drainage and fluconazole treatment. (Swift treatment with these methods portended a good outcome for our patient.)

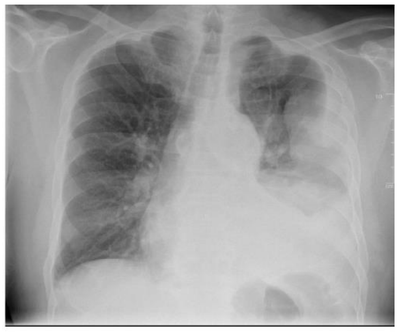
Introduction

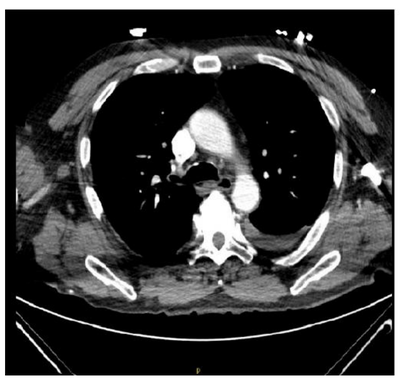
Candida empyema thoracis is a rare invasive candidiasis with poor prognosis. While more deadly in immunocompromised patients, it also occurs in the immunocompetent. There are no guidelines on treatment due to lack of research, but case reviews have shown antifungals, drainage, and surgery to be effective therapies.

Imaging

Figure 1. Comparison of Chest X-Ray and CT Chest on Day 0 vs Day 4







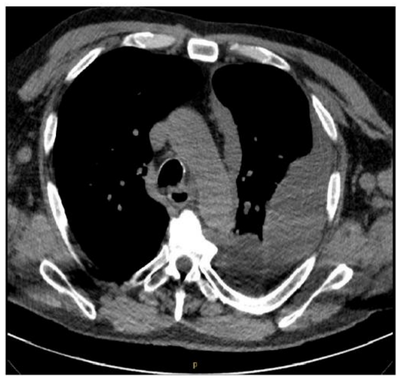
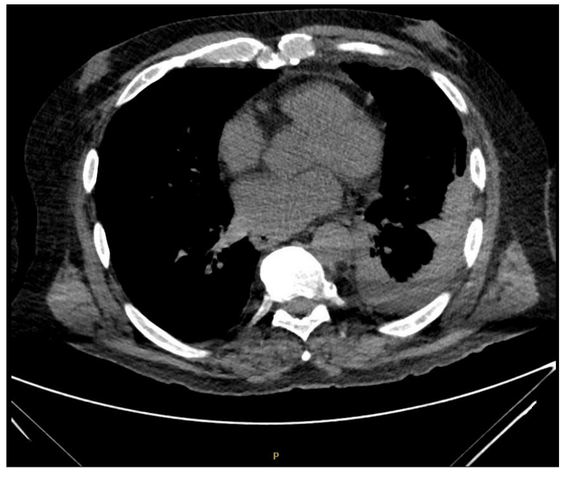


Figure 2. CT Chest 1 Week after Treatment on Day 10



Case Description

A 63-year-old man with chief complain of sharp, left-sided chest pain for 3 days associated with dyspnea, nightly fevers, and productive, occasionally blood-tinged cough. Past medical history remarkable for chronic obstructive pulmonary disease, pulmonary emboli, and alcohol use disorder; social history significant for former incarceration and tobacco use, and current occasional cocaine and opiate use.

- Respiratory viral panel was negative
- Chest x-ray was suggestive of left pleural effusion and a left lower lobe opacity that was concerning for airspace disease, which was confirmed on CT
- Pulmonology was consulted for thoracentesis, but no fluid could be drawn from the small pleural effusion found on bedside ultrasound
- Patient was desaturated on room air to the mid-80s and required oxygen via nasal cannula up to 3 liters with daily fevers to 101.3 F while on vancomycin, metronidazole, and cefepime
- On day 4 of admission, Thoracentesis yielded 3 mL of turbid serosanguinous fluid which ultimately grew *Candida parapsilosis* and *Streptococcus anginosis*
- Patient was discharged on day 11 on fluconazole and amoxacillin-clavulanic acid

Discussion

Given the paucity of studies on Candida empyema, there are no definitive treatment guidelines or recommendations for this deadly infection. A 2021 retrospective study of 81 patients with Candida empyema at two academic centers demonstrated that optimal management included pleural drainage and fluconazole treatment.

References

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