

Candida Empyema Thoracis: A Fungal Mystery

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Introduction

- Candida empyema thoracis as a complication following esophageal perforation is a severe manifestation of invasive candidiasis associated with high mortality
- Strong clinical acumen and an interdisciplinary approach are required for early diagnosis and treatment
- We present a unique case of Candida empyema thoracis



Figure 1: CXR shows bilateral pleural effusions

Case Presentation

- A 61-year-old male presented with an acute abdomen and hematochezia
- Laboratory work-up showed leukocytosis, elevated inflammatory markers, and lactic acidosis
- Abdominal imaging revealed diffuse pneumatosis, for which he underwent emergent total colectomy for ischemic bowel
- The patient could not tolerate liquids resulting in emesis, following which the patient became hypoxic and unresponsive

- Chest x-ray showed bilateral pleural effusions
- Thoracentesis further revealed exudative effusions that yielded *Candida glabrata*
- He was then started on Caspofungin
- There was persistent, large-volume drainage from the pigtail catheter, which prompted a CT chest that showed hydropneumothorax
- The upper endoscopy revealed an esophageal perforation that was managed with a stent
- In the next two weeks, there was a significant reduction in the size of the pleural effusions and near-complete resolution of the pneumothoraces, following which he was discharged

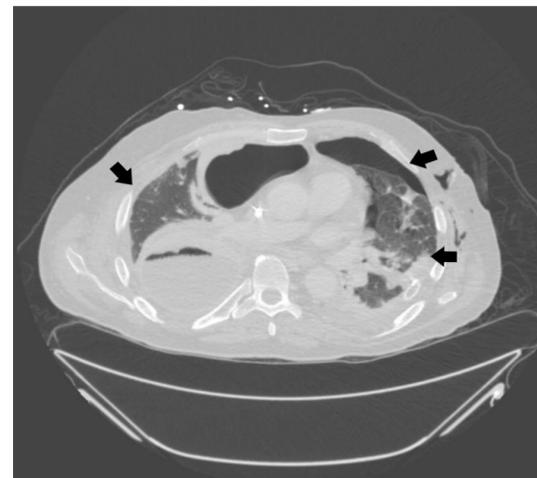


Figure 2 A: Axial Chest CT with Contrast shows moderate size left pneumothorax, left pleural effusion, loculated pneumothorax

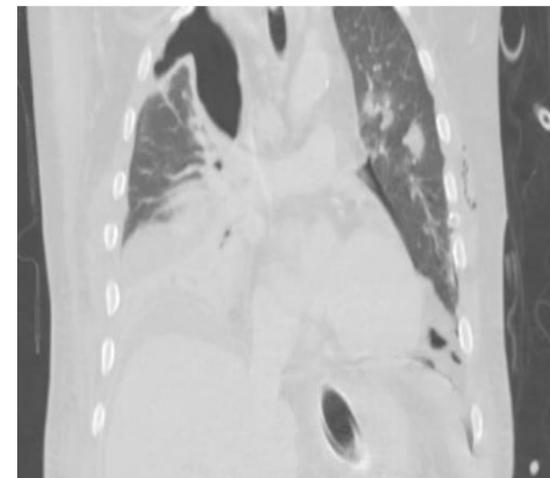


Figure 2 B: Chest CT with Contrast patchy consolidation throughout the lungs bilaterally

References

1. Ali N, Abate G. Candida Empyema as a Red Flag for Esophageal Rupture: A Case Report and Literature Review. Case Rep Infect Dis. 2020 Apr 14;2020:3935691. doi: 10.1155/2020/3935691. PMID: 32351745; PMCID: PMC7178516.

Discussion

- Candida typically colonizes the oral cavity, intestine, and vagina
- Fungal empyema is rare, with reported cases following gastrointestinal perforation, post-radiation, and immunocompromised populations
- Our patient was unique with no comorbidity
- The diagnosis of fungal empyema thoracis requires three elements¹
 - isolation of fungal species from thoracentesis fluid belonging to exudates category
 - significant signs of infection like fever or leukocytosis
 - isolated fungus other specimens such as blood culture
- In our case, the patient satisfied all three criteria
- *Candida albicans* is still the most common cause
- However, here has been a rise in non-*albicans* species
- *Candida glabrata* which accounts for 20 to 26% of all *Candida* empyema
- Studies have shown that these species are resistant to azole therapies
- Hence, fluconazole is no longer the first-line management

Conclusion

- Therefore, clinicians' and microbiologists' collaboration is vital in early diagnosis and good prognosis.