

# What in the Cavity is Going on? A Rare Case of Concomitant Infection with Aspergillosis and Penicillosis

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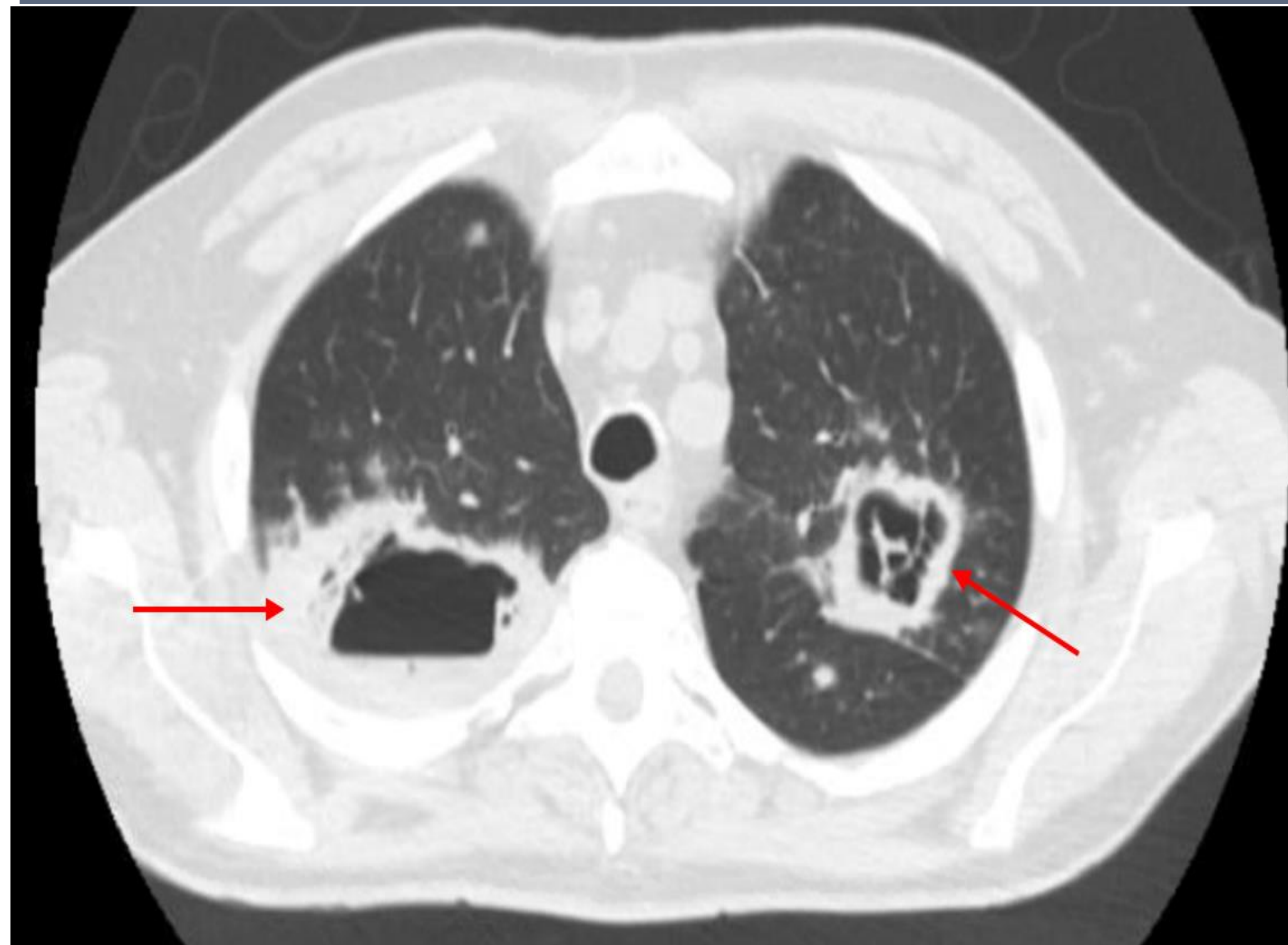
## Introduction

- Aspergillosis and Penicillosis are filamentous fungal infections occurring mainly in immunocompromised patients.
- *Penicillium spp* causing invasive pulmonary disease is rare and the prevalence of Chronic Pulmonary Aspergillosis [CPA] is only 1 in 100,000.
- To our knowledge, this is the first report of an uncommon co-infection of *Penicillium* and *Aspergillus* species.

## Case Presentation

- 64-year-old man w/ diabetes mellitus (DM) and chronic lymphocytic leukemia with 2-months of a productive cough, night sweats, 30-lb weight loss, and hemoptysis.
- Month prior he was admitted for pneumonia, and imaging at that time was normal.
- Labs showed leukocytosis of 34.25 K/uL. CT chest revealed large, multi-focal, thick-walled cavitory lesions within the bilateral upper and right middle lung lobes.
- Blood cultures, HIV serology, and sputum for acid-fast bacilli were negative. Beta-D-glucan and *Aspergillus* antibodies were positive, but antigen testing was negative.
- Sputum cultures grew quinolone-resistant *P. aeruginosa*. Fungal blood cultures were negative. He was then treated with cefepime.

## Image



**Figure 1** CT chest without contrast showing **thick-walled cavitory lesions** in bilateral upper lung lobes (red arrow)

## Case continued

- Interval CT scans at 4 and 8 months showed enlarging cavitations
- Due to non-resolution of his cavitations, we pursued a bronchoscopy with BAL isolating *Penicillium spp*, which is exceedingly rare.
- He underwent a VATS with left upper lung wedge resection. Ensuing tissue and blood cultures grew *Aspergillus fumigatus*.
- He was ultimately started on voriconazole.

## Discussion

- Risk factors include DM and moderate immunosuppression.
- Based on current guidelines for suspected CPA with aspergilloma, surgical resection was performed which confirmed *Aspergillus*.
- Limited guidelines exist for invasive *Penicillium* management; however, voriconazole has been shown to treat both pathogens.
- Important to suspect CPA in immunocompromised patients with an upper lobe cavitation.
- Timely diagnosis and prolonged anti-fungal treatment can significantly decrease morbidity and mortality.

## References

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