

Case	(408) Pulmonary mucormycosis: a rare and fatal complication in a young diabetic patient
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CASE PRESENTATION

A 27-year-old woman was admitted with diabetes descompensation secondary to severe community-acquired pneumonia. After 2 weeks in the ICU and no improvement despite broad-spectrum antibiotic treatment, a chest CT scan was performed. It showed extensive areas of central consolidation in the right lung crossing the fissures, right pleural effusion, and left lung perivascular ground glass opacities. The consolidations limited areas of central ground glass opacity (reversed halo sign). Large halo signs were also present.

The pulmonary involvement encompassed all of the right lung bronchi, showing amputation of the middle lobe segmental arteries and signs of mediastinal fat involvement, all consistent with an invasive infection.

Bronchoscopy and biopsy were performed with the diagnosis of pulmonary mucormycosis. Despite treatment with antifungals, the consolidations suffered necrosis and cavitation. Left lung involvement also worsened. Signs of vascular invasion evolved into irregularity of the lobe pulmonary arteries, stenosis, dilation and pseudoaneurysm formation. She developed severe haemoptysis with rapidly progressing clinical deterioration and died.

DISCUSSION

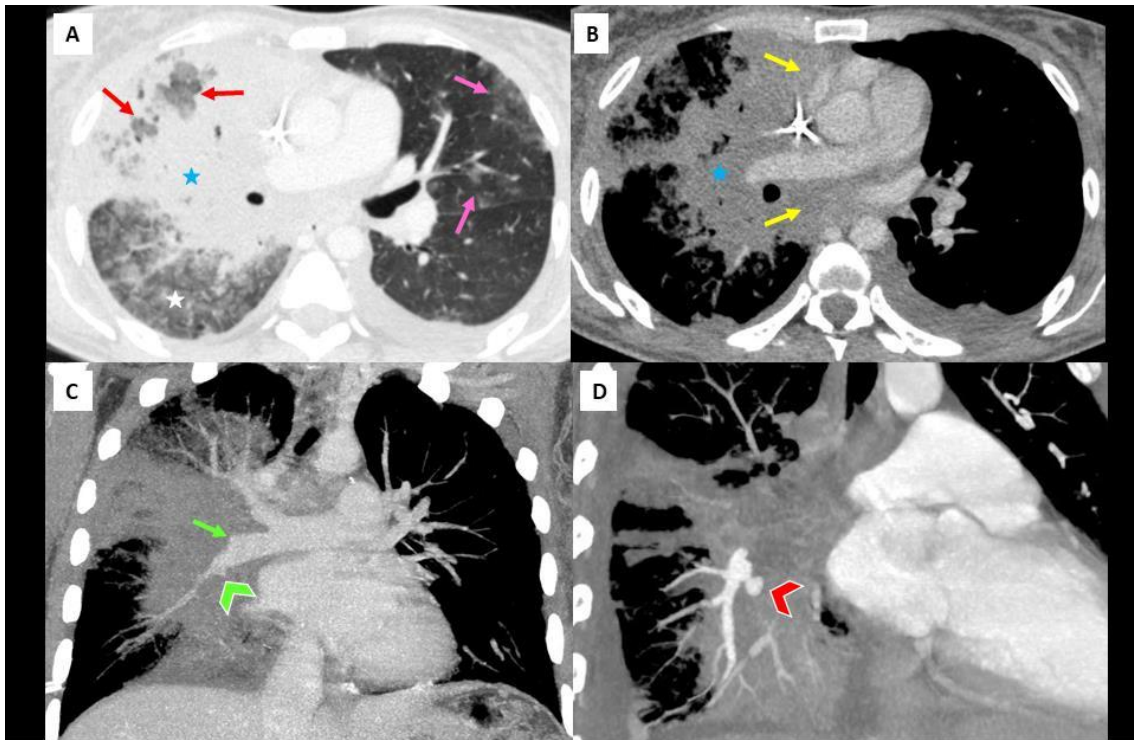
Pulmonary mucormycosis is an opportunistic aggressive fungal infection, much less common than *Aspergillus* and *Candida* infections, and with a much higher mortality rate. It is an angioinvasive infection often leading to pulmonary infarction and invasion of tissues by contiguity. It can manifest as a reverse halo sign on CT, consistent with a thick solid area of consolidation with central ground glass opacity, a frequent and relatively specific sign of mucormycosis in the appropriate clinical setting.

Vascular findings include arterial filling defects (fungal emboli) and pulmonary artery pseudoaneurysm formation due to direct invasion of the arterial walls. In this sense, the vascular cutoff sign refers to an abrupt termination of a branch of the pulmonary artery. Some severe cases may show a pattern of multifocal pneumonia, which is associated with high mortality and simulates multifocal bacterial pneumonia.

Mucormycosis usually occurs in patients with hematologic malignancies, particularly after a stem cell transplant. Nowadays, diabetes mellitus as an isolated risk factor, as in our case, is very rare.

CONCLUSION

Pulmonary mucormycosis is an uncommon, usually fatal, opportunistic infection, often manifesting with the reverse halo sign on CT, which is highly specific for the disease in the appropriate clinical setting. It may also cross pleural surfaces and invade vascular structures and tissues by contiguity. Diabetes today, as the only risk factor, is very uncommon.



A and B: axial contrast enhanced chest MDCT, lung (A) and soft-tissue (B) windows: extensive consolidations (blue star) surrounding areas of central ground glass opacity (**reversed halo sign**. Red arrows). Large halo sign (white star). Left lung ground glass opacities (pink arrows). Mediastinal invasion (yellow arrows). **C:** coronal MPR. Amputation of the middle lobe arteries (arrow). Irregular contour of the descending interlobar artery (arrowhead). **D:** MIP reconstruction. Pseudoaneurysm (arrowhead).

BIBLIOGRAPHY

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