

A young male with hemoptysis

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A 33-year-old male presented with complaints of dry cough for the last 5 years associated with streaky hemoptysis. There was no history of associated fever, loss of weight, or loss of appetite. He was diagnosed as type 1 diabetes mellitus at the age of 12 years and had been on insulin therapy for the same with good glycemic control (HbA1c 7.2%). There was no occupational exposure, and he was a never smoker. On examination, he was well built and vitals were stable. Rest of the general physical and systemic examination was unremarkable. Computed tomography (CT) thorax was done [Figure 1a],

and based on the findings, he was started on antitubercular therapy. There was no symptomatic improvement, and he had received treatment for multidrug-resistant tuberculosis. Due to persistent symptoms, a diagnostic flexible bronchoscopy was performed at our center which demonstrated a yellow-black plug in the right lower lobe anterior segment [Figure 1b] and biopsy was obtained.

QUESTION

What is this CT sign known as and what is the diagnosis?

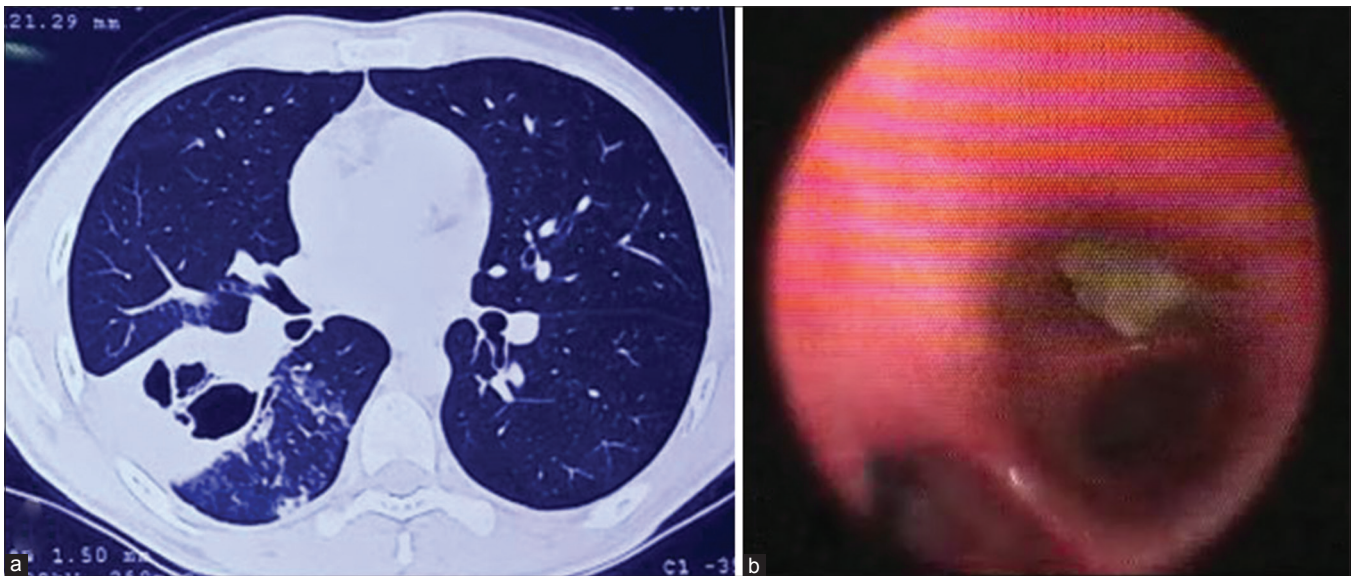


Figure 1: (a) Computed tomographic thorax demonstrating cavitary lesion in the right lower lobe, (b) bronchoscopic appearance of plug occluding the lower lobe segment

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ANSWER

Bird-nest sign suggestive of pulmonary mucormycosis.

Mucormycosis is a fungal infection caused by fungi of *Zygomycetes* family. It commonly affects immunosuppressed individuals including diabetics although it is reported in an immunocompetent host as well.^[1] The radiological feature suggesting invasive fungal infection in an appropriate clinical setting is the presence of ground-glass opacity surrounded by an area of consolidation, known as reverse halo sign. The area within ground-glass opacity may have irregular and intersecting areas of stranding which is known as bird-nest sign.^[2] In a neutropenic patient, this sign is considered suggestive of invasive mucormycosis more than aspergillosis. The histopathological specimen demonstrated broad aseptate hyphae consistent with mucormycosis. The patient was started on liposomal amphotericin B therapy and underwent right lower lobe segmentectomy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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