A 72-year-old man was hospitalized after experiencing massive hemoptysis. Chest x-ray revealed a 77 mm X 56 mm homogenous oval-shaped mass in the right lung apex, suspicious for aspergilloma (Figure 1). Cultures of sputum collected upon admission and the resected oval-shaped mass both yielded lavender colored hyphae with few conidia, vesicles, or phialides (Figure 2).

What strain of *Aspergillus* is this, and how would you confirm the diagnosis?

**Figure 1.** Chest X-ray (postero-anterior view)

**Figure 2.** Colony appearance on Sabouraud dextrose agar, at 25C, 7 days
Answer and comments

**Aspergillus fumigatus**

Diagnosis of *Aspergillus fumigatus* was confirmed using benA, rodA, and srg sequences\(^1\). Similar presentation of *A. fumigatus* has been reported from the sputum of a 70-year-old man with chronic bronchitis\(^2\). Brandt speculated that *Aspergillus flavus* could present in this atypical manner after prolonged exposure to azole drugs\(^3\). In our case, however, antifungal agents had not been administered when the sputum was collected for culture.

Gene mutations in the sporulation pathway may result in aberrant conidiophores and poor sporulation phenotypes in *A. fumigatus*\(^4,5\). In our case, the prolonged stressful environment within the aspergilloma may have contributed to such mutations.

Clinical mycologists should be aware of discrepancies between clinically diagnosed chronic aspergillosis, including aspergilloma, and culture results yielding atypical, colorless, poorly sporulating isolates. DNA-based identification should be considered in such circumstances.

References