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A Rare Cause of Haemoptysis: Tracheal Inflammatory Myofibroblastic Tumour in a Young Adult

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Background

Inflammatory myofibroblastic tumour (IMT) is a rare mesenchymal neoplasm. **Primary tracheal involvement is exceptionally uncommon**. Tracheal IMT may mimic benign or malignant airway lesions, making diagnosis challenging.

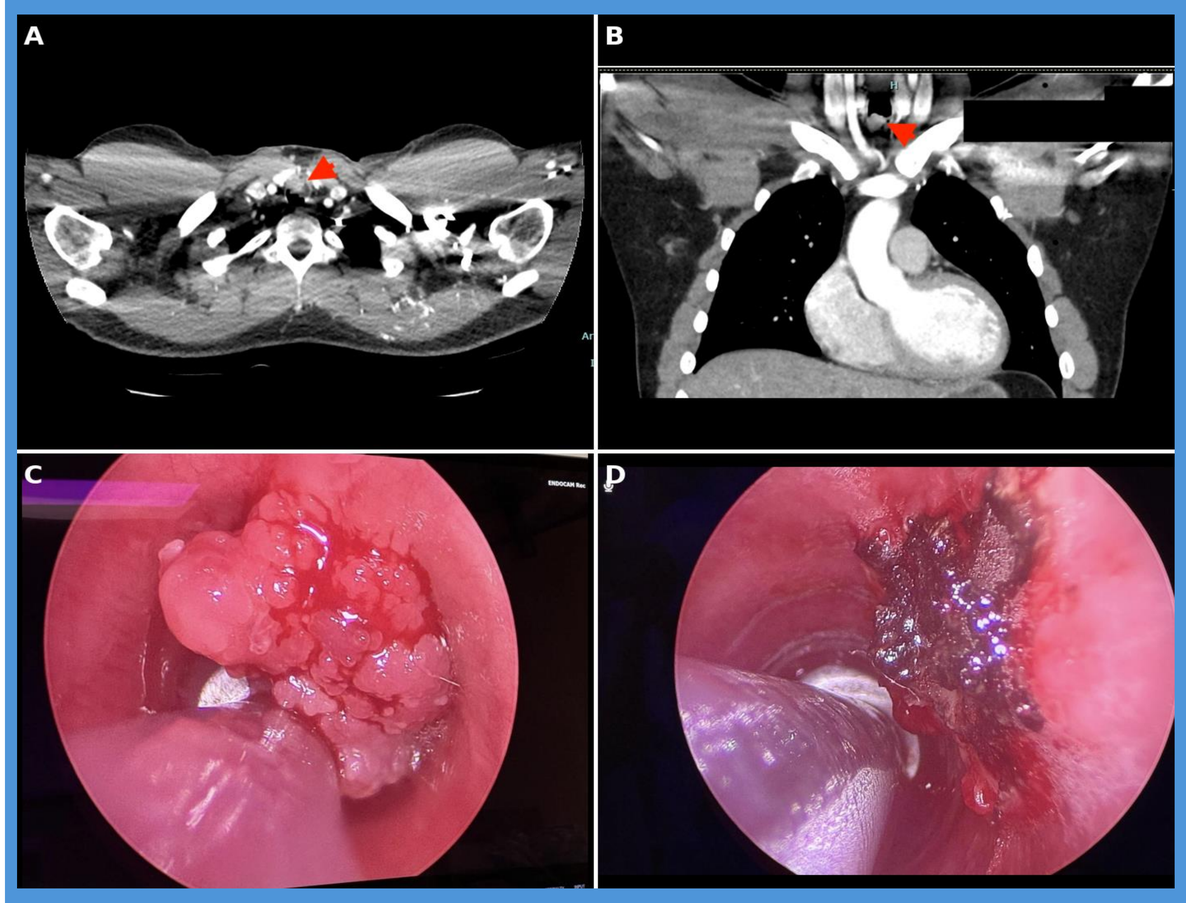


Figure 1: CT and endoscopic findings: (A) axial CT, (B) coronal CT, (C) pre-resection endoscopy, (D) post-resection airway.

Case presentation

A 20-year-old man presented with haemoptysis, chest discomfort, dyspnoea and sore throat.

- No past medical history.
- Flexible nasoendoscopy demonstrated a blood-stained tracheal mass.
- CT chest demonstrated a 13 × 15 × 9 mm polypoid lesion causing moderate luminal narrowing (figure 1).

Endoscopic Findings

Suspension laryngoscopy demonstrated a vascular exophytic lesion arising from the second and third tracheal rings. Endoscopic resection was performed and airway patency was restored.

Histology

Histopathology demonstrated a spindle cell neoplasm within a myxoid/collagenous stroma with mixed inflammatory infiltrate, supporting IMT (figure 2).

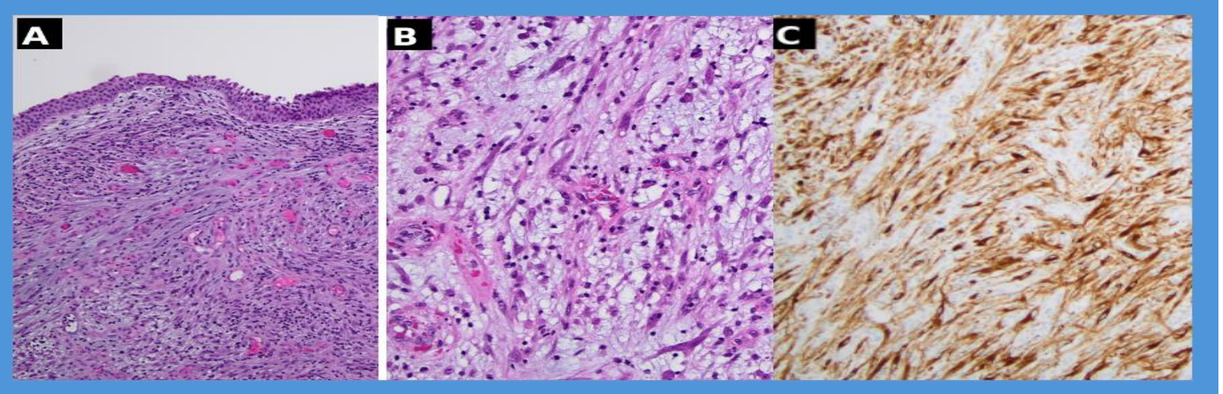


Figure 2: Histopathology: (A) H&E ×40, (B) H&E ×200, (C) ALK-1 IHC ×100.

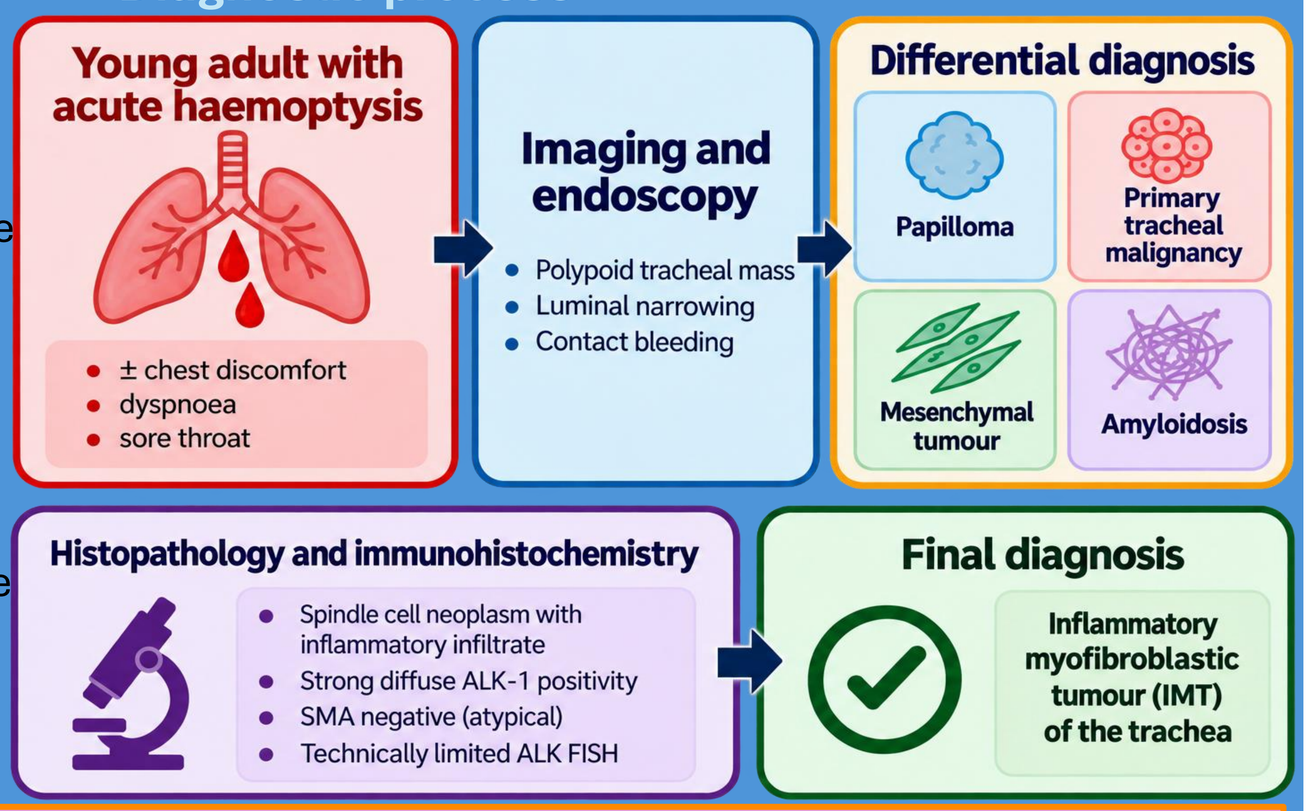
Management & Outcome

- The lesion was completely resected.
- No adjuvant therapy was required.
- Haemoptysis and respiratory symptoms resolved.
- Ongoing endoscopic surveillance planned due to recurrence risk.

Discussion

Tracheal IMT is rare and diagnosis relies on histology and immunophenotype. Endoscopic resection is effective but given recurrence rates of 18–40% ongoing surveillance is essential. (1)

Diagnostic process



KEY LEARNING POINTS

1. Tracheal IMT is a rare cause of haemoptysis and airway obstruction.
2. Histology and immunohistochemistry are essential for diagnosis.
3. ALK positivity supports IMT, but atypical immunophenotypes may require molecular investigation.
4. Endoscopic resection can provide effective treatment, but surveillance is required.

References: 1. Gupta S, Goyal P, Yang Y, Fitzgerald W. Tracheal inflammatory myofibroblastoma: A rare tumor of the trachea. Cureus. 2019;11(4).