Tracheal hamartoma presenting with critical airway obstruction

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Background

Primary tracheal tumours are rare and account for <0.1% of all pulmonary tumours[1]. They are typically malignant and present with varying degrees of respiratory distress.

Undiagnosed slow growing tumours may mimic respiratory diseases such as COPD, however harmful consequences may arise eventually resulting in critical airway obstruction.

Case Report

A 68-year-old smoker with COPD presented with acute haemoptysis and stridor. The patient reported persistent wheeze and progressively worsening dyspnoea over the previous year despite receiving repeated courses of antibiotics, steroid, and inhaler therapy.

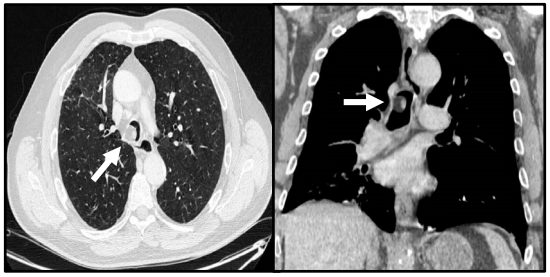

Fig 1. CT Chest imaging demonstrating tracheal mass.

He underwent an urgent computerised tomography scan of his thorax for further investigation. This disclosed a tracheal mass causing near complete luminal obstruction (Fig 1), so he was immediately referred to our interventional bronchoscopy service.

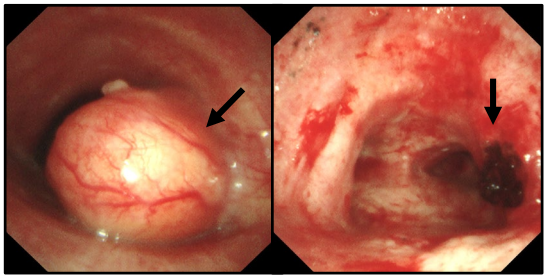

Fig 2. A) Bronchoscopic view of lobulated tracheal mass arising from lateral right wall. B) Post-debulking appearances.

Rigid bronchoscopy demonstrated a large mobile soft tissue mass causing >80% luminal obstruction arising from a narrow base on the lower tracheal wall (Fig 2). Mechanical debulking was performed using rigid forceps and cryo-debridement; a 980nm semiconductor Laser was used to resect any residual tissue.

Histology showed tumour fragments of mature adipose tissue, seromucinous glands and mucin filled cystically dilated duct-like structures, in keeping with a tracheal hamartoma (Fig 3). Following initial intervention, he made a rapid recovery with no further acute respiratory symptoms.

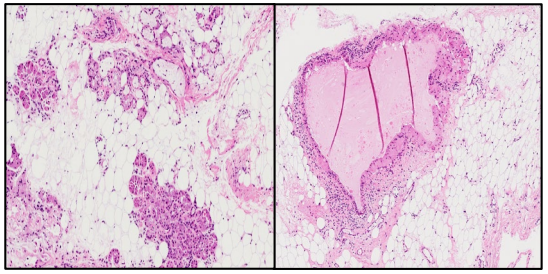

Fig 3. Histology (H&E) staining of debulked mass showing typical features in keeping with a pulmonary hamartoma.

Follow-up

The patient had an autofluorescence bronchoscopy and repeat CT scan at 12 months post-intervention (Fig 4). This showed no evidence of disease recurrence on endobronchial inspection with repeat biopsies showing scar tissue only.

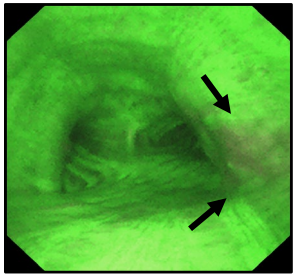

Fig 4. Endobronchial view on autofluorescence bronchoscopy.

Conclusions

- Hamartomas are the most common benign tumour of the lung, with 10-20% occurring endobronchially[2].
- Tracheal hamartomas are extremely rare with few cases reported in the literature.
- Patients often have other respiratory diagnoses made before central airway obstruction is diagnosed.
- Bronchoscopic intervention and ablation remains a safe appropriate therapy with low risk of tumour recurrence.

References

1. Primary tracheal tumours. Macchiarini. Lancet Oncol. 2006 Jan;7(1):83-91. doi: 10.1016/S1470-2045(05)70541-6. PMID: 16389188.
2. Management of endobronchial hamartoma. Odile et al. J La State Med Soc. 2003 Mar-Apr;155(2):110-2. PMID: 12778997.