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Pathology in Focus

Tracheal haemangioma: case report

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Abstract
A case of lobular capillary haemangioma of the trachea is presented. The patient gave a history of foreign body sensation in the throat and multiple episodes of haemoptysis. The chest X-ray was normal. A spiral computed tomograph (CT) with three-dimensional reconstruction revealed a small tracheal mass in the antero-lateral wall of the trachea, which was excised by endoscopy. The histopathological diagnosis was lobular capillary haemangioma, a rare, benign tumour of the trachea. A high index of suspicion with the spiral CT finding was responsible for early diagnosis of the tumour.

Key words: Tracheal Neoplasms; Haemangioma, Capillary

Introduction

Tracheal tumours are rare, accounting for only 2 per cent of all upper respiratory tumours.[1] In adults tumours are more commonly malignant than benign, whereas the reverse is true in children. The common benign tumours are chondroma, papilloma and fibroma,[2] and most often occur in the upper one-third of the trachea in children and the lower one-third in adults. An evaluation of 198 patients with tracheal tumours over 26 years showed 44 squamous cell carcinomas, 60 adenoid cystic carcinomas and 43 assorted tumours, both benign and malignant, of which only one was a haemangioma.[3] In another study of 27 patients with tracheal tumours there was only one haemangioma.[4]

Lobular capillary haemangioma is a benign lesion with a distinctive lobular arrangement of capillaries in an oedematous, fibroblastic stroma. It is synonymous with pyogenic granuloma and is neither caused by infection nor a true granuloma.[5]

Haemoptysis is present in 25 per cent of patients with tracheal neoplasms, and it is more common with malignant tumours. Endoscopy and simple radiological studies, if properly performed, can diagnose almost all tracheal tumours. We present here a rare, benign tumour of the trachea, its diagnosis and management.

Case report

A 40-year-old female presented with a history of foreign body sensation in the throat and multiple episodes of haemoptysis over four months. There was no history of foreign body aspiration, cough, dyspnoea, dysphagia, hoarseness of voice, intubation or any airway endoscopy in the past. On routine examination of ear, nose and throat no abnormalities were detected. Laryngeal examination was normal. Chest X-ray was normal. Detailed investigations for tuberculosis yielded a negative result.

Finally, a spiral computed tomograph (CT) with three-dimensional reconstruction was done, which showed a small tracheal mass in the right antero-lateral wall of the trachea, without any communication with mediastinal vessels on contrast studies (Figure 1).

The patient underwent an endoscopic excision of the mass under general anaesthesia. A cherry-red tracheal mass, 1 × 0.5 cm, was seen arising from the right antero-lateral wall of the trachea in the upper one-third, 20 cm from the upper incisor tooth. Excision biopsy of this mass was done and haemostasis achieved. The postoperative period was uneventful. Histopathology of the specimen showed polypoidal tissue lined by pseudostratified, ciliated columnar epithelium with underlying vascular proliferation of capillary channels. Scattered larger, thin-walled, ectatic, congested vascular channels were seen, with intervening hyalinized stroma and an acute-on-chronic inflammatory infiltrate, including scattered macrophages. Perl's Prussian blue staining showed focal haemosiderin pigmentation in the stromal macrophages as blue granules, indicative of previous haemorrhage. A diagnosis of polypoid lobular capillary haemangioma was made (Figures 2 and 3). Patient was followed-up for about a year without any recurrence, as evidenced by endoscopy.

Discussion

Patients with tracheal involvement from primary or secondary neoplasm usually present with relatively non-specific symptoms of cough and wheeze and are often treated for asthma and bronchitis. Prompt diagnosis requires a high index of suspicion. A normal chest X-ray further delays the definitive diagnosis. Computed

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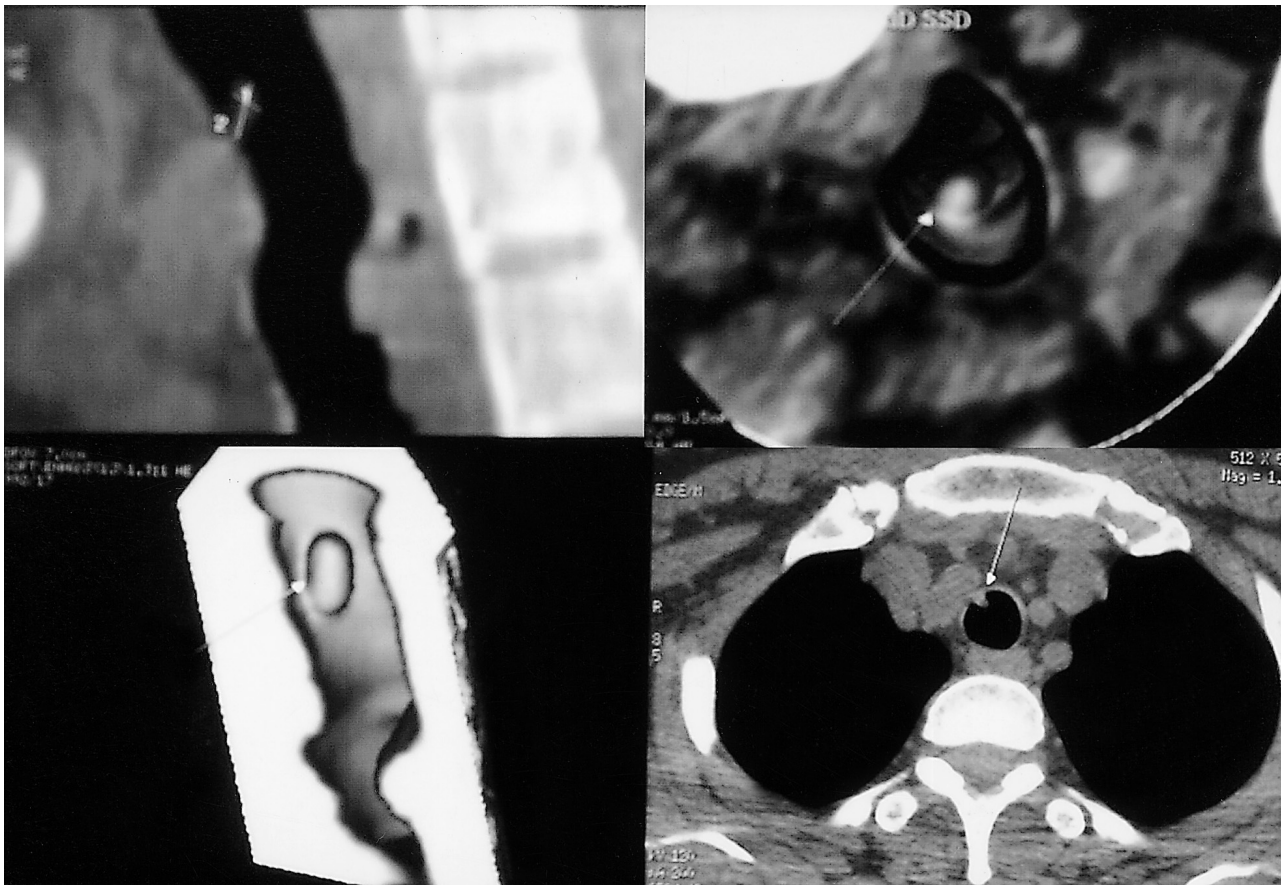

FIG. 1

Spiral CT scan: sagittal reconstruction, three-dimensional surface shaded displays in transverse and oblique coronal planes, and axial section showing a pedunculated, densely enhancing mass, 2 × 1 cm, arising from the right antero-lateral wall of trachea (arrows).

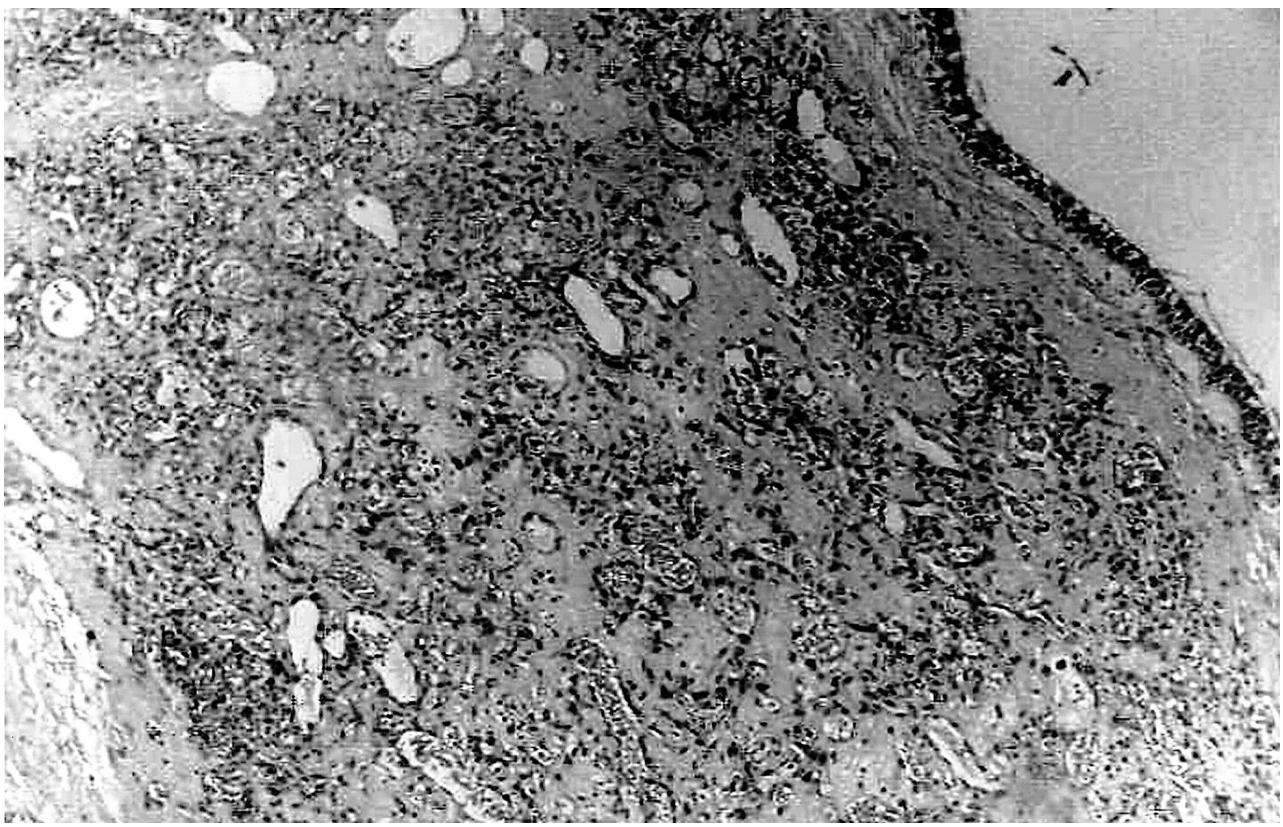

FIG. 2

Lobular vascular proliferation with overlying respiratory epithelium consistent with lobular capillary haemangioma (H & E; ×200).

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tomography is currently considered the standard imaging modality for diagnosis and staging of tracheal tumours. Three-dimensional helical CT scanning has now replaced conventional tomography. This technique provides a multiplanar image display with differentiation of mucosal from submucosal planes. Regarding primary treatment of tracheal neoplasm, when it is circumscribed, has not metastasized and does not involve an excessive length of trachea, resection with primary reconstruction[3] is the best choice. However very small lesions may be amenable to limited endoscopic resection.

Haemoptysis in a young, otherwise healthy woman whose routine investigations failed to prove any other illness prompted a CT scan and accidental diagnosis of a tracheal haemangioma. Lobular capillary haemangioma is rarely seen in the trachea. A Medline search of English literature found only two similar previous reports.[6,7] Our patient presented with complaints of foreign body sensation in the throat and episodes of haemoptysis. As detailed pulmonary investigations failed to show any abnormality, a spiral CT scan with three-dimensional reconstruction was performed, showing a tracheal tumour. A high index of suspicion by the referring doctor and the high-resolution CT finding were instrumental in the relatively early diagnosis of the tumour.

This being a relatively small, early lesion, it could easily be removed endoscopically. In the present day laser excision[8] would be the best option where such facilities are available. Histopathologically, this tumour was previously labelled as pyogenic granuloma. However the term lobular capillary haemangioma has been introduced to accurately describe these lesions,[5,9] which arise spontaneously without any history of trauma or infection. In our specimen there was no ulceration as would be expected in a bleeding mass, but there was haemosiderin pigmentation suggestive of previous haemorrhages, accounting for the epistaxis. If detected early these tumours can be treated endoscopically with minimal morbidity, as happened in our case.

- **An intractable cause of haemoptysis is discussed**
- **Only two cases of lobulated capillary haemangioma (pyogenic granuloma) of the trachea have been previously reported**
- **The role of spiral CT in making an early diagnosis of this condition is stressed**

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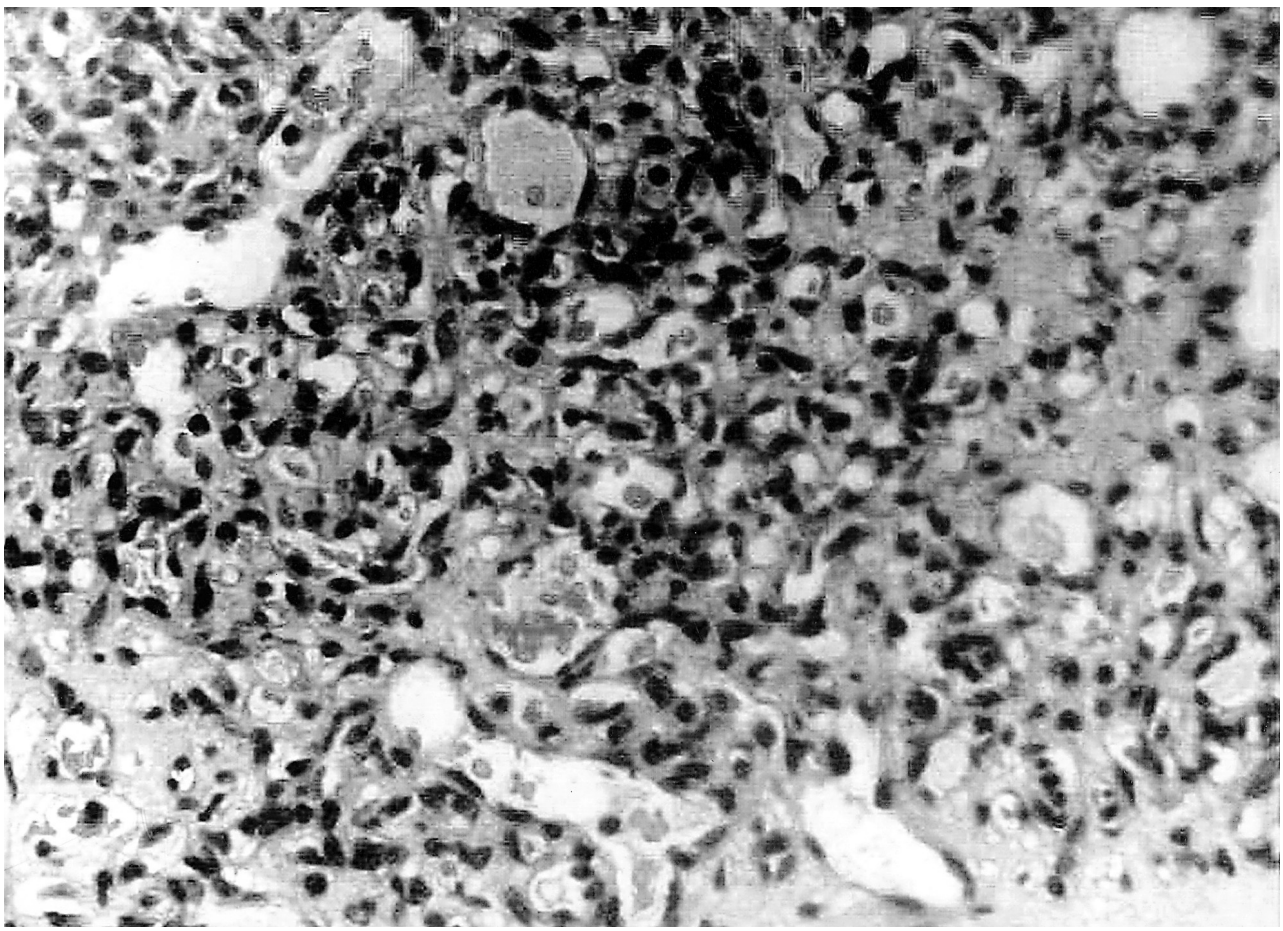

FIG. 3

Higher magnification showing proliferating thin-walled capillary channels suggestive of lobular capillary haemangioma (H & E; ×400).

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