Unusual presentation of small cell carcinoma with diffuse tracheal wall thickening leading to delayed diagnosis

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DESCRIPTION

We present a man in his early 60s who initially was noted to have diffuse mural thickening of the distal trachea on a CT scan performed at an outside hospital. Further investigations to evaluate the incidental finding were not performed as alternate non-neoplastic diseases were considered. Six months later, patient presented to our hospital with hemoptysis, unintentional weight loss of over 30 pounds, hoarseness of voice and on repeat CT was noted to have endobronchial lesions in the main stem bronchus as well.

Given alarming symptoms and CT scan findings, he underwent bronchoscopy with biopsy. Pathology confirmed high grade neuroendocrine carcinoma. Immunohistochemistry characteristics included CD56 and synaptophysin cytoplasmic/membranous positivity, Ki-67 index of 60% and absence of chromogranin and TTF-1 reactivity. No other tumour markers are available. Fluorodeoxyglucose (FDG)-positron emission tomography (PET) scan showed increased uptake along the distal trachea and proximal bronchi, right lung nodule and nodes in the chest. Routine labs were unremarkable. No intracranial metastases were noted on MRI of the brain. Given limited stage disease, plan was made for concurrent cisplatin/etoposide with radiation. Repeat imaging is unavailable at the time of submission of this manuscript.

CT/PET combined figure (figure 1) shows unusual diffuse non-calcified peritracheal and peribronchial pattern of small cell cancer growth. Although nodular tracheal metastasis of primary non-small cell carcinoma with a predilection for upper trachea and nodular small cell cancer tracheal metastasis have been described, our patient presented with diffuse lower tracheal wall thickening from primary small cell carcinoma. While tomographic differentials of diffuse tracheal wall thickening without posterior wall involvement is broad and includes sarcoidosis, amyloidosis, tuberculosis, paracoccidioidomycosis, rhinoscleroma, granulomatosis with polyangiitis, lymphomas and even inflammatory bowel disease, bronchoscopic evaluation is indicated to narrow the differentials especially to rule out high grade malignancy as timely diagnosis and treatment will have a great impact on outcomes.

Learning points

- Diffuse non-calcified tracheal wall thickening needs inclusion of aggressive cancers in the differentials.
- In addition to tomographic evaluation, bronchoscopic correlation would strongly be indicated to narrow the differentials.

Figure 1  CT/positron emission tomography showing diffuse non-calcified distal tracheal and proximal bronchial wall thickening.

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REFERENCES
