Small Cell Carcinoma of the Subglottis: A Case Report

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Introduction

Small cell carcinoma is neuroendocrine neoplasm most commonly presenting in the lung. Extrapulmonary small cell carcinoma is rare and represent about 2-5% of all small cell carcinomas[1,2]. Laryngeal small cell carcinoma represents 0.5% of these, and small cell carcinoma of the subglottis is exceedingly rare with only a few case reports[3,4]. We report a case of primary subglottic small cell carcinoma in a 52-year-old male.

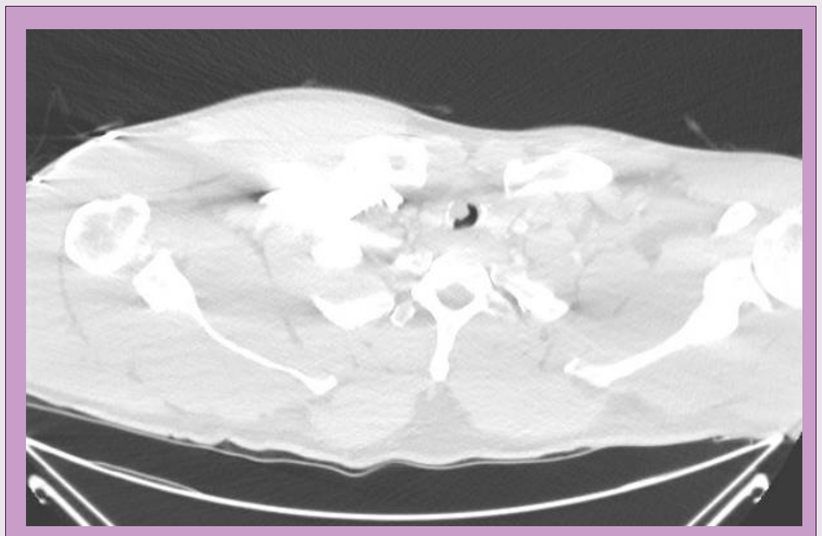

Figure 1. Bronchoscopy revealed subglottic mass with exophytic granulation of the trachea causing partial obstruction.

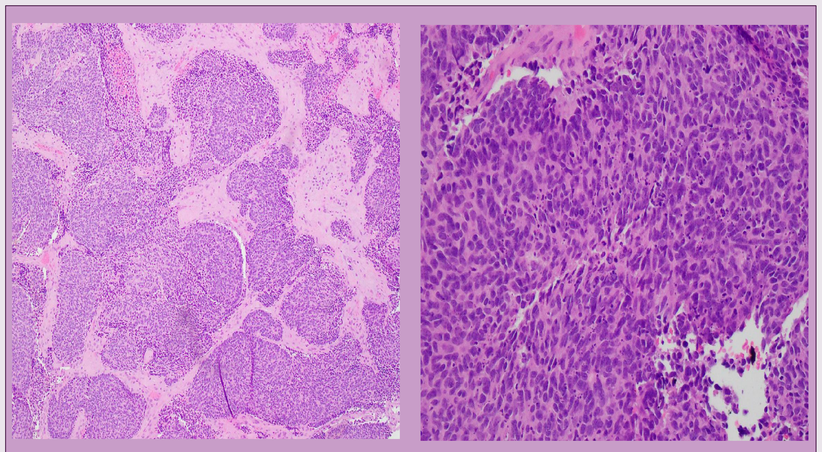

Figure 2. Left: Low power 100x showing cells with nested architecture, high N:C ratio and moulding. Right: High power on 400x showing apoptotic bodies and mitotic figures

Case Report

A 52-year-old male with past medical history of hypertension, tobacco use, alcohol use disorder, and substance abuse presented to the emergency department with several days of progressive shortness of breath. He denied dysphagia, odynophagia, or difficulty with secretions. Physical exam was notable for intermittent inspiratory stridor. Flexible laryngoscopy was performed. Patient was noted to have bilateral true vocal fold mobility with a lesion of the subglottis and resultant stenosis. Labs were overall unremarkable. CT scan confirmed a soft tissue mass of the right subglottis.

He was taken to the operating room for direct laryngoscopy with biopsy and debulking of the lesion. Pathology was notable for infiltrating tumor cells arranged in nests with peripheral palisading, frequent apoptotic bodies, mitoses, and salt-and-pepper chromatin compatible with high-grade neuroendocrine neoplasm. Additional tumor stains were performed to confirm the diagnosis of poorly differentiated small cell neuroendocrine carcinoma. He underwent PET/CT which was notable for hypermetabolic activity of the subglottis with additional activity in a 1.3cm right level Vb lymph node. He was presented to multidisciplinary tumor board with recommendation for chemoradiation therapy. He underwent complete treatment with cisplatin/etoposide and concurrent radiation. PET/CT four months after treatment showed no residual disease.

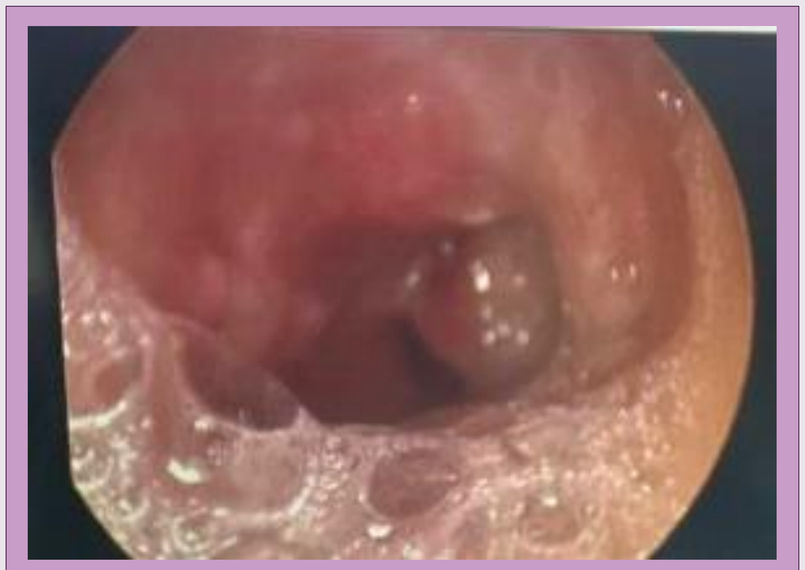

Figure 3. Bronchoscopy revealed subglottic mass with exophytic granulation of the trachea causing partial obstruction.

Discussion

We present a case of primary subglottic small cell carcinoma with extent to the trachea and cervical metastasis. Small cell carcinoma of the subglottis is an extremely rare entity with only a few reported cases. It most commonly presents in males in the 5th and 6th decades of life with history of smoking[1,2,4]. Metastasis at presentation is common, with rates reported up to 90%[2]. Staging typically follows that of small cell lung cancer, and staging scans should be performed to differentiate primary from pulmonary metastatic lesions[5]. Five-year survival rates are poor (5-20%)[1,4]. Treatment remains controversial given the small number of patients with this entity and lack of randomized controlled trials. Generally, chemoradiation therapy is pursued, as a longer survival has been observed[4]. Previously used agents include cisplatin, etoposide, cyclophosphamide, doxorubicin, vincristine, and methotrexate[4]. Debate exists on the utility of surgical treatment, which is often reserved for recurrence[4–6].

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