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Case Report

Adenoid cystic carcinoma of lung: a very unusual presentation

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ABSTRACT

Adenoid Cystic Carcinoma (ACC) is a rare malignancy of the lung arising from the main bronchial division, sub mucosal glands of large airways. Initially it was suspected as a non-resolving pneumonia, which did not respond to empirical antibiotics. Contrast Enhanced Computer Tomography (CECT) of thorax was suggestive of malignancy, bronchoscopic biopsy was suggestive of adenoid cystic carcinoma. The mainstay of treatment is surgical resection (lobectomy, pneumonectomy). As the tumor is radiosensitive, radiotherapy can be used following surgery in the treatment.

Keywords: Adenoid cystic carcinoma, Lung, Surgery, Radiotherapy

INTRODUCTION

Lung carcinomas are categorized by the size and appearance of the malignant cells seen on histopathology. Lung cancers are classified according to histological type.[1] For therapeutic purposes, they are broadly classified into two classes: non-small-cell lung carcinoma (NSCLC) and Small-Cell Lung Carcinoma (SCLC).[2] The three main sub-types of NSCLC are adenocarcinoma, squamous-cell carcinoma and large-cell carcinoma. Adenoid Cystic Carcinoma (ACC) of lung is an unusual neoplasm arising from the submucosal glands of the tracheobronchial tree. It is most commonly presents in large airway in >80% of cases and found peripherally in upto 15-20% of the cases. It is considered as a slow-growing, low-grade malignancy.[3,4] The primary treatment for this tumor is surgery. The role of radiotherapy, chemotherapy, and targeted therapies are not well defined.

CASE REPORT

A 31 year old male patient presented with a history of cough, SOB for 1 month, chest pain for 15 days, and fever since 7 days. He had a history of smoking cigratte 2 packs per day for 15 years. There was no history of hemoptysis. There was no significant past or family history of malignancy. On examination, his vitals were stable. Complete hemogram and other routine blood investigations were normal. Plain chest radiograph revealed heterogeneous opacities in the lower and para-cardiac areas of the right lung, suggestive of community acquired pneumonia (Figure 1). The patient was treated symptomatically and started on empirical antibiotics for 10 days. There was relief in the symptoms. Further work-up was done with routine blood investigations, plain chest radiograph. Contrast Enhanced Computer Tomography (CECT) thorax was done which revealed collapse lower lobe of the right lung, with a mildly

enhancing soft tissue density lesion in bronchus intermedius (Figure 2). On Bronchoscopy, there was a smooth rounded, spongy growth measuring about 1.5x1.5 cm in size which was complete occluding the right middle bronchus (Figure 3). Bronchial brushings were taken from the growth and histopathology confirmed the diagnosis of the adenoid cystic carcinoma of the lung.

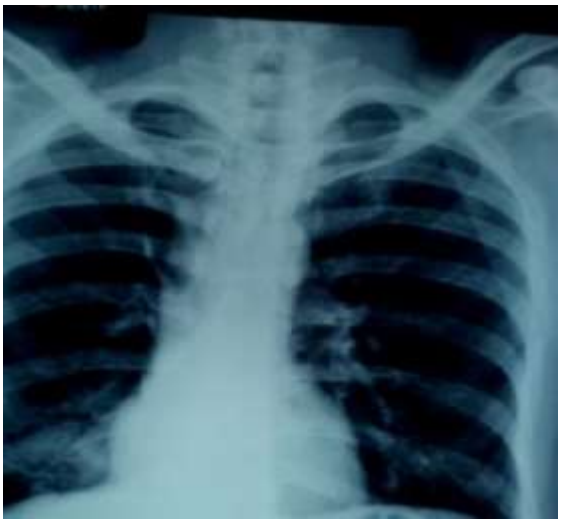

Figure 1: Plain chest radiograph showing heterogeneous opacities in the lower and para-cardiac areas of the right lung.

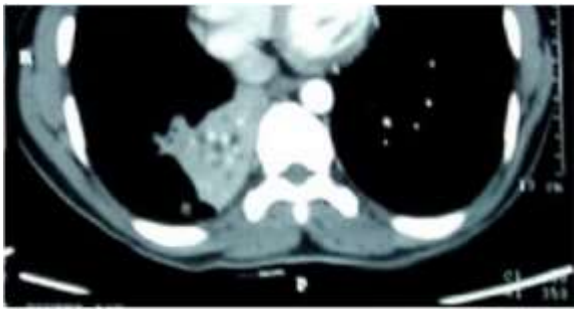

Figure 2: Contrast enhanced computer tomography thorax showing collapse lower lobe of the right lung, with a mildly enhancing soft tissue density lesion in bronchus intermedius.

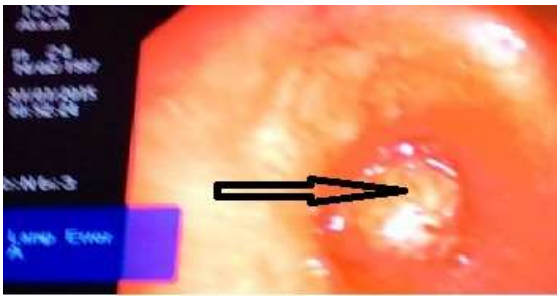

Figure 3: Bronchoscopy showing a smooth, rounded, spongy growth measuring about 1.5x1.5 cm in size which was completely occluding the right middle bronchus.

DISCUSSION

Adenoid Cystic Carcinoma (ACC), also known as cylindroma is a rare malignancy. It is a variant of the adenocarcinoma with a distinctive salivary gland-type histological features that arises infrequently as a primary tumor in the lung. ACC of the lung arises from the main bronchial division, glands of trachea and bronchial wall (airway) sub mucosa, peripheral ACC is <20% and must be differentiated from metastatic malignancy.[5] Centrally located tumors compressing the large airways present with features of post obstructive collapse with consolidation, in this case, the patient presented with lower lobe pneumonitis. The centrally located tumors are mostly squamous cell variants.[6] Clinical behaviour of ACC are related with their histological patterns, solid subtype is usually presents as a more aggressive disease with higher chances of early distant metastases, in contrast to the cribriform type which shows a more benign behaviour.[7] Primary treatment of Adenoid cystic carcinoma is surgical removal. Conlan et al supports surgical resection,showed superior treatment results in patients with complete surgical resection.[8] As the tumor is highly radiosensitive, the patients can be treated with radiotherapy following complete surgical excision. It is found to have an overall improved control rates.[9] These tumors are generally not sensitive to chemotherapy but may show partial response to targeted novel therapies.[10]

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