Case Report

Mucoepidermoid Carcinoma of Trachea: A Rare Entity

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Abstract

Mucoepidermoid carcinoma of the tracheo-bronchial tree is a rare tumour. We report a case of mucoepidermoid carcinoma of the trachea presenting with symptoms of intractable cough and wheeze. Chest radiograph at presentation was normal and patient was evaluated with routine investigations. Contrast-enhanced computed tomography (CECT) of the chest revealed a tracheal tumour. Video-assisted bronchoscopy and biopsy revealed it as mucoepidermoid carcinoma. The tumour was excised by coring with rigid bronchoscope and total resection of the bed was done by the cardiothoracic surgeon.
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Key words: Mucoepidermoid carcinoma, Stridor, Wheeze, Pneumonia, Trachea

Introduction

Mucoepidermoid carcinoma, a slow growing rare tumour of the tracheo-bronchial tree, is a rare occurrence. These tumors tend to grow locally and account for 0.1% to 0.2% of the lung neoplasms. Previously, these were classified as bronchial adenoma. However, World Health Organization (WHO) currently classifies mucoepidermoid carcinoma as a distinct entity.[1] It can present at any age group with varied symptomatology in the form of cough, haemoptysis, wheezing, stridor, atelectasis or post obstructive pneumonia.[2,3]

Case Report

A 40-year-old female patient came to our institution with chief complaints of progressive cough for the last six months. The patient was a non-smoker with no past history of any lung ailment. Initially, cough was associated with mucoid expectoration. In the last three months intensity of the cough was increased. At the time of presentation, patient had stridor and exertional dyspnoea. Earlier she was treated as case of bronchial asthma by the local physician. The patient initially responded to bronchodilators and steroids.

On admission, routine investigations and chest radiograph was normal. Pulmonary function test revealed severe obstructive disease with no reversibility with the bronchodilators. A contrast-enhanced computed tomography (CECT) of chest (Figure 1) revealed an intraluminal mass in the trachea just above the carina. Video-assisted bronchoscopy showed an endobronchial growth with well-defined borders and smooth surface on the posterior wall of the trachea (Figure 2). The tumour was obstructing 80% lumen of the trachea. Cryobiopsy was done from the growth to have an adequate specimen for histopathology. With the snare, the tumour was locally resected and residue was cleaned by coring with rigid bronchoscope.

The patient significantly improved with the resolution of symptoms. Histopathology revealed mucoepidermoid carcinoma of the trachea (Figure 3). Subsequently, patient was referred to a cardiothoracic surgeon for curative surgery. A complete resection anastomosis of the tumour was performed by the cardiothoracic surgery team.

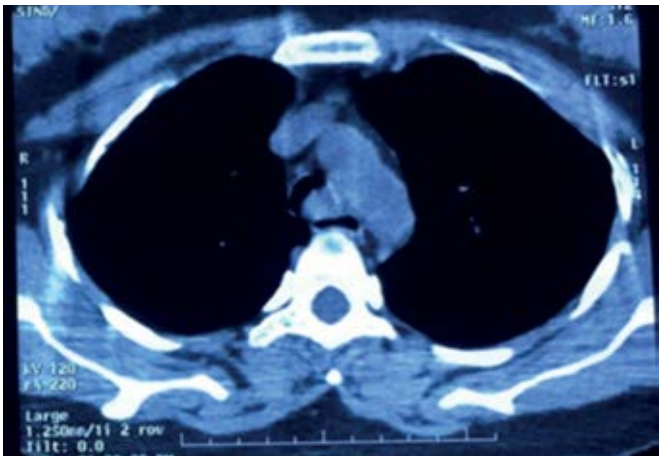

Figure 1. Contrast-enhanced computed tomography of chest showing an intraluminal mass in the trachea just above the carina.

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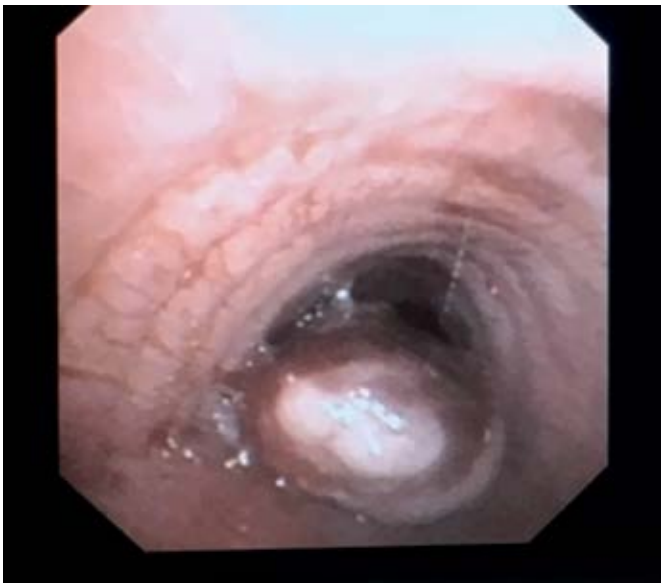

Figure 2. Video-assisted bronchoscopy showing an endobronchial growth with well-defined borders and smooth surface on the posterior wall of the trachea.

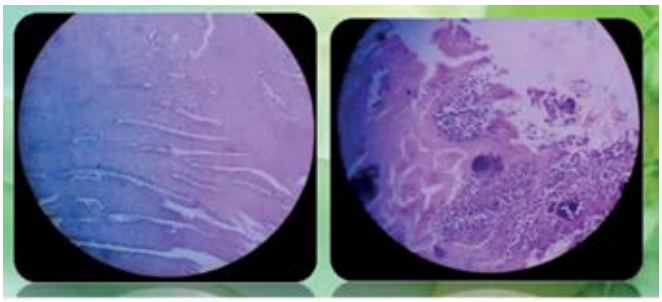

Figure 3. Photomicrograph of histopathology showing solid nest of pleomorphic tall columnar epithelial cells, disposed off in duct like structure and acini along with squamous cells displaying high N:C ratio and frequent mitosis suggestive of mucoepldermoid carcinoma.

Discussion

Central tracheo-bronchial mucoepidermoid carcinoma is similar to mucoepidermoid tumours of the salivary glands and can be visualised on fiberoptic bronchoscopy.[4] These patients present with varied respiratory symptoms from intractable cough to a life threatening stridor.[3,5] In the initial evaluation, CECT of the chest is an important investigation when chest radiograph is normal.

The clinical course of mucoepidermoid carcinoma depends on histopathological typing. A 5-year survival with high grade tumour in dismal at 31%. Low grade tumours are usually diagnosed and resected early and rarely involve lymph nodes. Lymph node involvement has been reported as a poor prognostic marker.[1] Complete resection is the treatment of choice as [performed in this case]. The role of radiotherapy and chemotherapy are yet to be established as a standard of care protocol.[3]

In our patient, the initial symptoms were of bronchial asthma when she was evaluated by the local family physician and treated accordingly. However, patient presented to us due to inadequate response to the therapy with progressive symptoms of intractable cough, worsening dyspnoea and stridor. Subsequently, CECT of the chest and bronchoscopy along with histopathology confirmed the diagnosis of mucoepidermoid carcinoma. Chest radiograph is the first line of work-up in the airway obstruction and it may be normal.[6] Patient needs to be evaluated further with CT scan of the chest and fiberoptic bronchoscopy if necessary.[7] In this patient, CECT of the chest revealed the growth in the trachea, occupying >80% of the lumen and was considered to be the cause of the stridor.

In conclusion, when a patient presented with gradually worsening obstructive airways symptoms in spite of optimised medical therapy and in the presence of stridor should be aggressively investigated for a definitive diagnosis.

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