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Case Report

Mucoepidermoid Tumor of Lung in a Young Female: Case Report

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Abstract

Mucoepidermoid carcinoma is an uncommon tumor of the lung which usually occurs in young individuals without any known risk factor. It is non-small cell lung cancer of salivary gland type. Clinical presentation is often confused with that of bronchial asthma or pneumonia. Computerised tomography of chest and bronchoscopy establish the diagnosis. Most often it is low grade subtype with excellent prognosis and is amenable to curative surgery. A rare case of mucoepidermoid tumor of lung in young adult female is presented.

Keywords: *Mucoepidermoid Carcinoma (MEC); Obstructive Pneumonia*

Introduction

Mucoepidermoid carcinoma (MEC) is a type of salivary gland tumor. It is one of the very rare neoplasm of the lung that accounts for 0.1 to 0.2% of all pulmonary tumors [1]. MEC may be encountered in any age group, however, most cases occur between third and fourth decade of life. There appears to be slight male preponderance with male-to-female distribution of 1.5:1 [1,2]. Most pulmonary MECs arise in the proximal bronchi with no predilection for any pulmonary lobe or segment. Central location often leads to post-obstructive mucoid and lipoid pneumonia [2]. Most lesions are generally regarded as low grade and overall prognosis may be more favourable than other forms of lung cancer [3].

Case Report

Thirty two year old female presented in respiratory out patient department with complaint of fever, non-productive cough and pain right lower chest for last one week. She denied any past medical or surgical history. Chest examination revealed decreased breath sound intensity in right lower lobe area. Her vital parameters were normal except for low grade temperature (100.2F).

Chest X-ray (Figure 1) showed right lower lobe homogenous opacity. Her complete blood counts, liver and kidney biochemistry were reported normal. She was treated on line of community acquired pneumonia. She received one week of antibiotic. Fever subsided but cough and chest pain persisted. Repeat chest X-ray did not show any change in right lower lobe opacity. Computerised tomography (CT) of chest (Figure 2) was requested. CT showed tumor in right lower lobe bronchus with obstructive atelectasis of right lower lobe of lung. Bronchoscopic examination of airway (Figure 3) revealed large, irregular, polypoidal, friable looking vascular growth in right lower lobe bronchus occluding its lumen. Punch biopsies from growth (Figure 4) were consistent with mucoepidermoid tumor of lung. A 2-(18F)-fluoro-2-deoxy-D-glucose [(18F)-FDG] positron emission tomography scan demonstrated a focal mild FDG uptake (maximum standardized uptake value 1.4) within the tumor, with no evidence of metastatic disease or areas of uptake elsewhere to suggest an occult site of primary malignancy. She was submitted to right lower lobectomy (Figure 5).

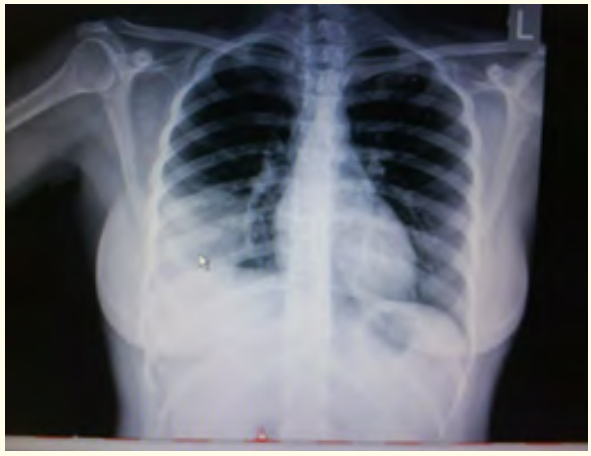

Figure 1: *Chest X-ray: right lower lobe homogenous opacity.*

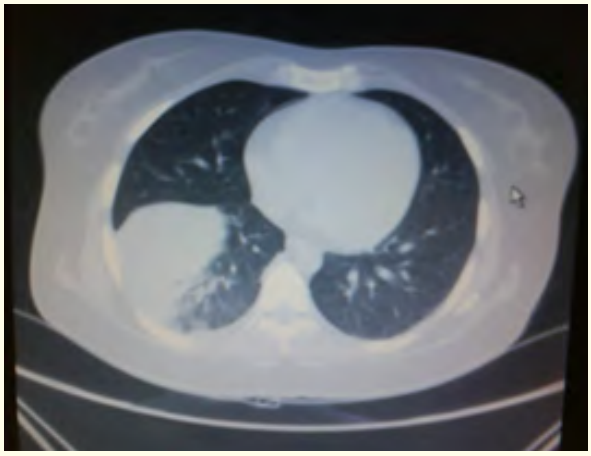

Figure 2: *CT scan: Right lower lobe tumor with obstructive atelectasis.*

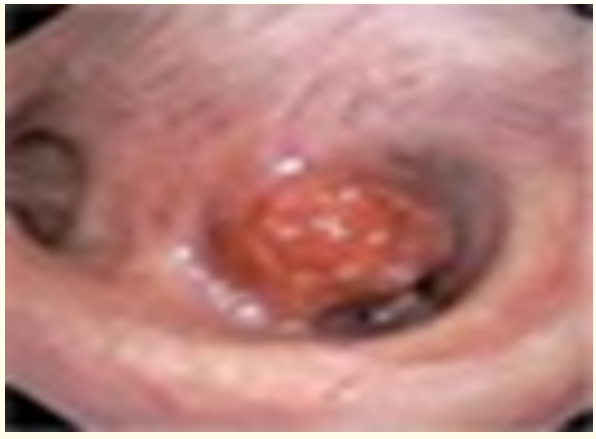

Figure 3: *Bronchoscopy view: Irregular, polypoidal, vascular growth in right lower lobe.*

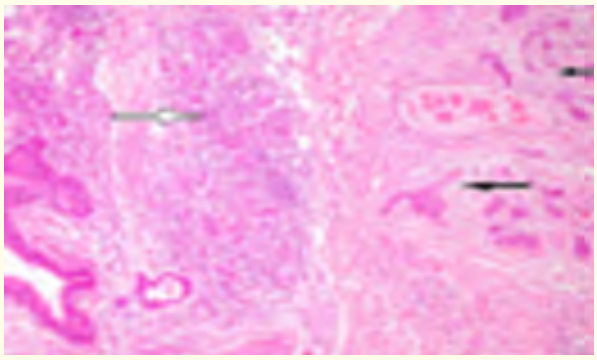

Figure 4: *Histopathology: Normal bronchial glands (left) and tumor cells (right) in desmoplastic stroma.*

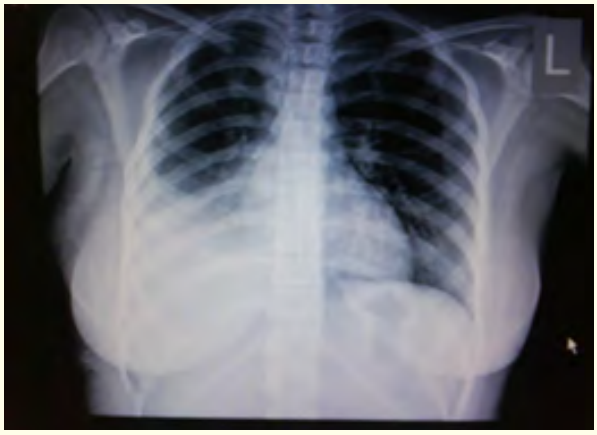

Figure 5: *Chest x-ray post right lower lobectomy.*

Discussion

Mucoepidermoid carcinoma (MEC) of lung is a type of non-small cell lung cancer (NSCLC). It is classified under the group of lung carcinomas of the salivary gland type (SGTTL´s -Salivary Gland–Type Tumours of the Lung) [2]. MECs most often arise from the parotid or submandibular salivary glands. They account for less than 1% of primary lung tumors with slight predilection for male gender. The tumor has very wide age range (3years to 78 years) with 50% of tumours occurring in individuals <30 years. Most cases present in their third and fourth decade of life [1]. The MECs of lung arise from the minor salivary glands lining the lower airways and are also referred as mucoepidermoid carcinoma of the tracheobronchial tree [4]. No risk factor has been associated with occurrence of MEC of the lung. Presented case is a 32 year old non-smoker female with tumor located in the right lower lobe of lung.

By virtue of central bronchial origin the patients commonly present with cough, localised chest pain, hemoptysis and fever mimicking pneumonia. Not uncommonly there is breathlessness and wheeze confusing with bronchial asthma or chronic obstructive pulmonary disease. However asymptomatic peripheral tumor may be just be detected on routine chest skiagram [5]. One should keep in mind the differential diagnosis of MEC if there is no response to standard line treatment of asthma or pneumonia with consistent radiological finding.

CT features can be variable and nonspecific, although a well-defined ovoid or lobulated intraluminal or peripheral lung mass with moderate to marked heterogeneous contrast enhancement may suggest towards the diagnosis of MEC. Lesions may sometimes show punctate calcification and may adapt to branching feature of the airways [6,11].

The tumor is characteristically a well-circumscribed, exophytic endoluminal mass easily visualized through bronchoscopy. It can have an intact or ulcerated bronchial mucosa and can be sessile, polypoid with a broad base, or pedunculated with a well-formed stalk [5].

Tumor is divided into low grade and high grade MEC based on the morphology and cytological features. low-grade tumors characteristically demonstrate bland cytologic features; mitotic activity is minimal or absent. High-grade mucoepidermoid carcinoma demonstrates a greater degree of cytologic anaplasia in both its squamoid and glandular elements; areas of necrosis and hemorrhage may also be present [7].

Patients with low-grade MECs have a generally excellent prognosis with a five-year survival rate approaching 95%. In contrast, high-grade MECs carry a much poorer prognosis similar to non-small cell carcinomas of the lung [8,10].

Surgical resection remains the standard therapy and is curative for patients with low grade pulmonary MEC. The goal of surgery is to obtain a complete resection with negative surgical margins. Adjuvant therapy is not indicated for this group of patients [9].

The patient described had a typical presentation for a low-grade MEC, a single centrally located well-circumscribed endobronchial tumor without evidence of locoregional or distant metastasis. The tumor was resected by sleeve lobectomy in combination with mediastinal lymph node dissection. Histopathological findings were diagnostic of a low-grade MEC with a confirmed complete tumor resection with negative surgical margins and no evidence of metastatic spread to lymph nodes.

Conclusion

Mucoepidermoid carcinoma is a rare lung tumor of young age without any predisposing factor. Clinical presentation may mimic pneumonia or obstructive airway disease. It should be suspected when there is suboptimal response to treatment and suggestive chest X-ray. Low grade MEC is the most common type with favourable prognosis with curative surgery.

Bibliography

1. Yousem SA and Hochholzer L. "Mucoepidermoid tumours of the lung". *Cancer* 60.6 (1987): 1346-1352.

2. Leslie KO and Wick MR. "Practical Pulmonary Pathology". Saunders.

3. Heitmiller RF., *et al*. "Mucoepidermoid lung tumors". *Annals of Thoracic Surgery* 47.3 (1989): 394-399.

4. Klacsmann PG., *et al*. "Mucoepidermoid carcinoma of the bronchus: an electron microscopic study of low grade and high grade variants". *Cancer* 43.5 (1979): 1720-1733.

5. Liu X and Adams AL. "Mucoepidermoid carcinoma of the bronchus: a review". *Archives of Pathology and Laboratory Medicine* 131.9 (2007): 1400-1404.

6. Kim TS., *et al*. "Mucoepidermoid carcinoma of the tracheobronchial tree: radiographic and CT findings in 12 patients". *Radiology* 212.3 (1999): 643-648.

7. Travis WD., *et al*. "Pathology and Genetics of Tumours of the Lung, Pleura, Thymus and Heart". Lyon: IARC Press. World Health Organization Classification of Tumours (2004): 63-64.

8. H Ghraïri., *et al*. "Prognosis of mucoepidermoid carcinoma of the bronchi". *Revue de Pneumologie Clinique* 63.1 (2007): 29-34.

9. P Vadasz and M Egervary. "Mucoepidermoid bronchial tumors: a review of 34 operated cases". *European Journal of Cardio-thoracic Surgery* 17.5 (2000): 566-569.

10. Elnayal A., *et al*. "Primary salivary gland-type lung cancer: imaging and clinical predictors of outcome". *American Journal of Roentgenology* 201.1 (2013): W57-W63.

11. Li X., *et al*. "Mucoepidermoid carcinoma of the lung: common findings and unusual appearances on CT". *Clinical Imaging* 36.1 (2012): 8-13.

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