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PERIPHERAL SQUAMOUS CELL CARCINOMA CLINICALLY MIMICKING PANCOAST TUMOUR IN PATIENT WITH INTERSTITIAL LUNG DISEASE : A CASE REPORT

Medicine

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ABSTRACT

Lung cancer and interstitial lung disease share some common environmental and occupational risk factor. Patients of interstitial lung disease (ILD) are known to have higher risk of developing bronchogenic carcinoma. Most of the studies report distinct anatomical distribution of the lung cancer, with most tumours found in the periphery of the lung and in the region of honeycombing or at the junction of honeycombing and normal tissue. Here we present a case of a peripheral bronchogenic carcinoma clinically mimicking Pancoast tumour in a patient with ILD.

KEYWORDS

Interstitial Lung Disease, Bronchogenic Carcinoma, Pancoast Tumour

INTRODUCTION: -

A pancoast tumor is an uncommon lung cancer that arises at the level of the superior sulcus and is limited to the apical segment of either lung. [1] This is a form of non-small-cell carcinomas (NSCLCs) that are very difficult to treat as they can invade blood vessels if located anteriorly, brachial plexus if located in the middle or the stellate ganglion, or vertebral bodies if located posteriorly, because of their proximity to these structures. [2] Involvement of brachial plexus, results in Horner syndrome which comprises of ptosis, miosis and anhidrosis. NSCLCs are slow growers and spread slowly when compared to the Small Cell Carcinomas of lung. NSCLCs can be of 3 types: squamous cell carcinomas (45-50%), adenocarcinomas (36-38%), or undiffer entiated large-cell carcinomas (11-13%). [3] Squamous cell lung tumours usually occur in the central part of the lung or in one of the main airways (left or right bronchus). Interstitial lung diseases (ILDs) are a heterogeneous group of acute and chronic bilateral lung diseases of known and unknown causes. When the cause for the development of pulmonary fibrosis is not found and certain radiographic and/or pathologic criteria are met, it is known as idiopathic pulmonary fibrosis or IPF. More specifically, consensus treatment guidelines from international lung societies define IPF as "a specific form of chronic, progressive fibrosing interstitial pneumonia of unknown cause, occurring primarily in older adults, limited to the lungs, and associated with the histopathologic and/or radiologic pattern of UIP (usual interstitial pneumonia). [4] Here we present a case of patient of ILD with a peripheral mass clinically mimicking a pancoast tumour.

CASE REPORT: -

A 65 years old female patient presented with complaints of shortness of breath grade 3 MMRC for last 2 months and pain in right side of chest radiating to shoulder and numbness in right arm along with history of chronic non-productive cough which became exaggerated during last 1 month. Patient was a chronic bidi smoker with a smoking index of 500. There was no significant medical or drug history in past. On examination, clubbing was present, BP = 100/70 mmHg, RR = 19/min, Spo2 was 96% on room air. There were no ocular symptoms. On Respiratory examination, there was tenderness in right supra-mammary, clavicular and infra-scapular region. There were Velcro like crepitations in B/L lower zones, right side more than left. RFTs were B. Urea(49mg/dl) and S. Creatinine(2.7mg/dl). USG abdomen showed B/L renal parenchymal changes. Sputum for Acid Fast bacilli was negative but culture was positive for Pseudomonas Aeruginosa.

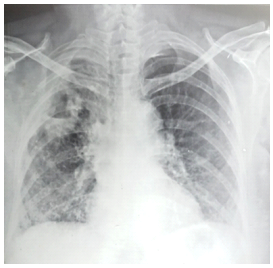

FIGURE 1. Chest X Ray showed right upper zone peripheral mass with rib erosion of 2nd, 3rd and 4th rib and Bilateral lower zone reticulations (R>L) and air-fluid level in Right upper zone.

Pancoast tumour was suspected and CECT chest was done. Patient was started on conservative treatment with pain relievers and bronchodilators. CECT chest showed large right upper lobe mass extending into middle lobe eroding rib cage and invading into chest wall along with radiological findings consistent with interstitial lung disease (UIP pattern). FNAC of lung mass from the chest wall was done and sent for cytological examination which was suggestive of Squamous cell carcinoma lung. Patient was given chemotherapy and radiotherapy was planned but patient did not survive.

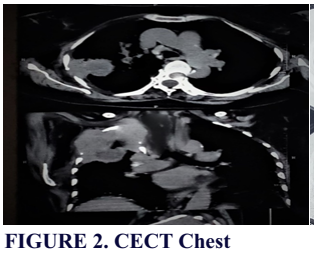

FIGURE 2. CECT Chest showing large lung mass extending into chest wall

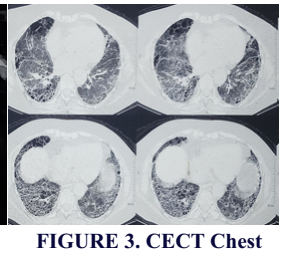

FIGURE 3. CECT Chest showing typical UIP pattern

DISCUSSION: -

The association between ILD and lung cancer has been recognised since 1952[4]. Whether ILD occurs first or the lung cancer or if both sequences occur simultaneously is not yet clear. Both ILD and lung cancer have many common occupational and environmental risk factors and these have been studied as common mechanisms to explain the association. [6] Both ILD and Lung cancer have been associated with heavy smoking. Our patient was a chronic smoker with smoking index (SI) of 500 which can explain the co-existence of both ILD and Lung cancer. Lung cancer type seen in ILD patients differ in different studies and reports are conflicting whether it differs from that seen in the general population. According to some authors there is no difference in the distribution of histological lung cancer types between patients with and without pulmonary fibrosis, while others have reported a distinct anatomical distribution of lung cancer in ILD patients, with periphery of the lung being the most common site. [7][8][9] Usual interstitial pneumonia had a distinct anatomical distribution of lung cancer. Periphery of the lung was the site of the most cancers in UIP (98%) with close relation to the area of honeycombing. Studies done on surgical specimens with small cancers showed that the boundary between honeycombing and the normal area was the site where most tumours arose in UIP. The lung cancer is suspected to develop from this area of the remodelling of the lung. So, the remodelling of the lung parenchyma caused by chronic inflammation may have an important role in development of lung cancer in UIP patients who also have a history of chronic smoking. [7]

In most of the studies lower lobes in which fibrosis was prominent was the most common site for tumours. But in our patient the tumour was not in the lower lobes but in the upper lobe of the lung. [10] Hironaka and Fukayama found that almost 90% of the carcinomas were in the peripheral region of the lungs, and 65% were topographically associated with honeycombed areas or the border between honeycombing and non-fibrotic areas. [11]

CONCLUSION :-

Although interstitial lung disease and lung cancer are found in association with each other with prevalence ranging from 4.4% to 48.2% in different studies. [7][12] Pancoast tumour have been rarely reported. In our case, presenting symptoms were clinically suggestive of a Pancoast tumour but it turned out to be a squamous cell tumour which is usually a central tumour but in our case was located in the periphery and invaded brachial plexus, ribs and chest wall.

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