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Intra Pulmonary Teratoma: A Rare Case Report

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Abstract*: Teratomas are tumours consisting of tissues derived from more than one germ cell line. Criteria for pulmonary origin are exclusion of a gonadal or other extra-gonadal primary site and originate entirely with in the lung. Intra pulmonary teratomas are rare. Most of the teratomas are benign.Only 30 cases have been reported in the world literature till date. We report a case of 30 year old male with intra pulmonary malignant teratoma with rapid progression in 2 months with review of the literature.*

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I. Introduction

Teratoma of the lung is a rare tumour. Teratomas are tumours composed of tissues derived from more than one germ cell line. They occur equally in men and women and are diagnosed in 2nd to 4th decades of life. These tumours present radiologically as lobulated masses that contain calcification. Germ cell tumours are predominantly found in gonads, while the anterior mediastinum is the most common extra gonadal site. Diagnosis is often missed clinically and on chest x ray imaging and patients are treated for other causes (infectious or malignant) subjecting the patient to unnecessary antibiotics, anti tuberculous therapy and even chemotherapy. If untreated, teratoma of the lung may cause significant and life-threatening complications like chest pain, haemoptysis, compression of airways and malignant transformation. Primary lung teratomas have rarely been reported since Mohr's description of this entity in 1839.

II. Case Report

A 28 yr old male patient presented with left sided chest pain since 2 months. He was a non smoker, and had no relevant history of fever or cough with expectoration and weight loss. On examination vitals were stable, he was afebrile. On chest examination, chest was asymmetrical with a bulge in the left hemithorax anteriorly. On percussion impaired note was observed in the left hemithorax. On auscultation diminished breath sounds were heard in the left hemi thorax. Chest x ray at presentation to us showed homogenous opacity in the left hemithorax without shift of mediastinum. It was misdiagnosed as left massive pleural effusion and pleural fluid thoracocentesis was as attempted at a peripheral centre but dry tap was obtained. His previous chest xray showed heterogenous opacity in the left upper lobe for which he was kept on antibiotics misdiagnosing it for consolidation at peripheral hospital.

CECT chest showed well defined heterogeneously enhancing mass lesion occupying almost entire left hemithorax causing obliteration of left main bronchus with multiple central hypo dense areas and irregular calcifications – a possibility of teratoma. Flexible fibreoptic bronchoscopy was done and endo bronchial mass was present in the left main bronchus.

FNAC and Trucut biopsy were done. Histopathology showed moderately cellular smears consisting of polyhedral cells with vacuoles in the cytoplasm and centrally located nuclei suggestive of squamoid cells. There were also pleomorphic round cells suspicious of adenocarcinomatous cells. There were also spindle shaped cells with chondromyxoid background features which were suggestive of malignant teratoma.

Complete blood picture and other hematological blood tests were normal. USG of abdomen and other organs was done and found to be normal with no evidence of metastasis. Beta Human Choionic Gonadotropin and Alfa-Feto protein (AFP) were negative. Spirometry showed mild restriction. Montoux test was found to be negative.

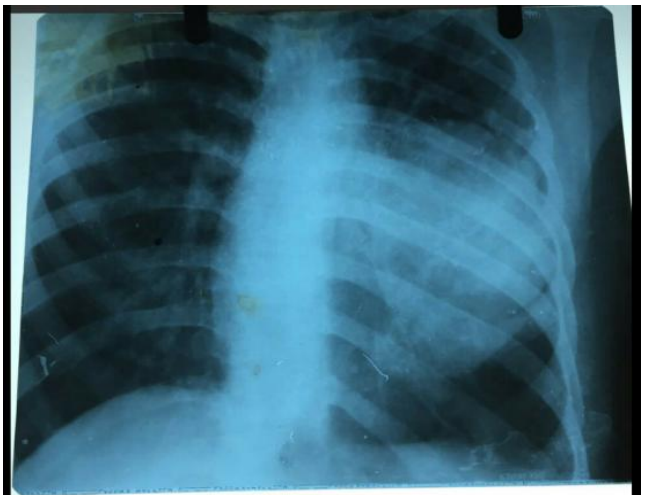


Figure 1: Previous chest xray showing heterogenous opacity in the left upper lobe

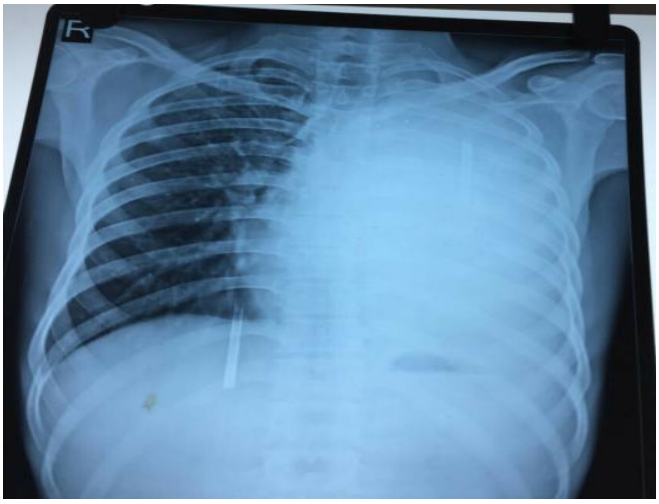


Figure 2: Present chest xray showing homogenous opacity in left hemithorax with no mediastinal shift.

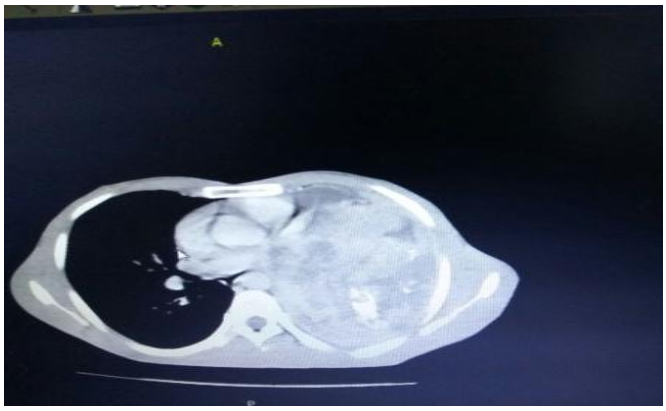
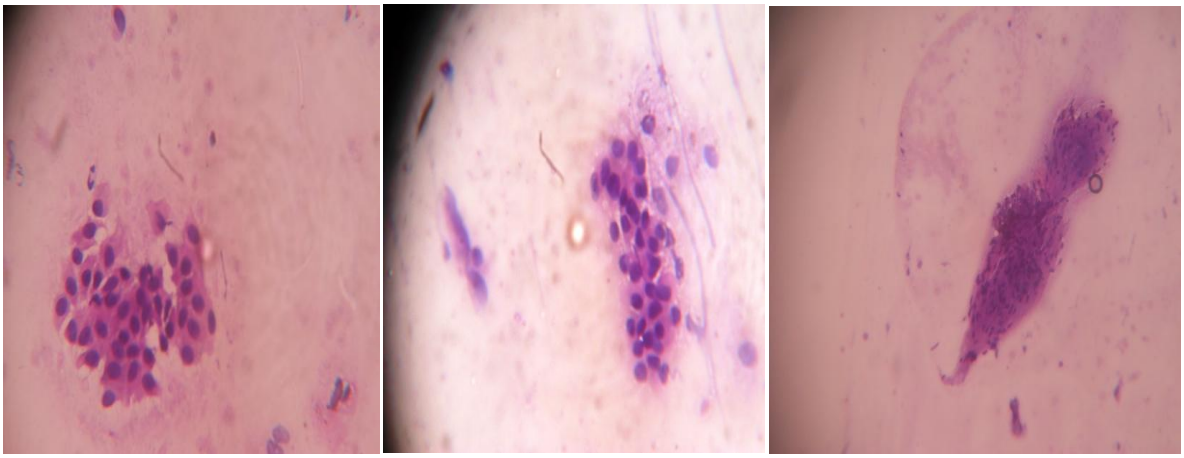


Figure 3: CECT chest showing heterogenous mass in left hemithorax with calcification .



Figures 4, 5, 6 : Histopathology showing Squamous, adenomatous and mesenchymal components of teratoma respectively

III. Discussion

Among germ cell tumours, teratomas are the commonest histologic type followed by seminomas. Germ cell tumours are mostly found in the gonads. The anterior mediastinum is the most common extragonadal site[1]. Mohr reported the first case of pulmonary teratoma in 1839 [2]. Intrapulmonary Germ cell tumours occur typically in the second to fourth decades of life. Patients usually present with chest pain, hemoptysis, cough and expectoration of hair ; the latter is the most specific symptom [1]. Intrapulmonary teratomas typically range from 2.8 to 3 cm in diameter but may be even large, some are cystic and multiloculated but may rarely be predominantly solid. In 42% of the cases, the cysts are in continuity with bronchi, and have an endobronchial of hair or sebum[3]. Microscopically, ectodermal, mesodermal and endodermal elements are seen in varying proportions. Intra pulmonary teratomas are mostly composed of mature, cystic somatic tissue – although malignant elements may occur. Mature elements take the form of squamous lined cysts often. Malignant pulmonary teratomas present as sarcoma or carcinoma with the presence of immature elements like neural tissue [1]. Patients with intrapulmonary teratomas present with chest pain (52%), hemoptysis (42%) and cough (39%). The most specific and characteristic symptom is expectoration of hair or trichoptysis(13%). Bronchiectasis occurs in 16% of cases and may delay the recognition of the pulmonary tumour [4]. Radiographically, lesions are cystic masses often with focal calcification. CT accurately estimates the density of all elements such as soft tissue (in virtually all cases), fluid (88%), fat (76%), calcification (53%) and teeth [5]. MRI is useful in detecting the anatomic relation to hilar and mediastinal structures. The definitive treatment of choice is surgical resection and radical extirpation leads to a long recurrence-free survival [6].

IV. Conclusion

Patient was diagnosed as left lung Intra pulmonary malignant teratoma clinically, radiologically and pathologically and referred to surgical oncologist after the pre operative evaluation for left lung pneumonectomy. Unfortunately the patient expired even before surgery. Even though most of the teratomas are benign and have good prognosis, malignant intra pulmonary teratomas also exist which have a poor prognosis.

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