



A CASE REPORT ON CARCINOID TUMOUR OF LUNG

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Abstract :

35 year old female presented with wheeze , without any diurnal variation and was not relieved by routine medication and also associated with hemoptysis 6-7 episodes for the past 3 months. Patient was investigated and detected to have a mass lesion in the middle lobe of right lung . She underwent right middle lobectomy and histopathological examination of the specimen showed atypical carcinoid. Patient had a symptom free period during follow up.

Keyword : wheeze, hemoptysis, lobectomy, atypical carcinoid

INTRODUCTION :

Carcinoid tumour is an uncommon group of pulmonary neoplasm. It represents about 1-5% of all lung malignancies. The carcinoid lung tumour represents the most indolent form of spectrum of bronchopulmonary neuroendocrine tumour that includes small cell carcinoma of lung as its most malignant form. Muller described the first bronchial adenoma in detail in 1882, probably was a lung carcinoid in a patient with cough and hemoptysis for 8 years.

with bronchial carcinoid was described by Stafford, Davis, Gunter and Hobert in 1958.

CASE REPORT :

A 35 year old female admitted with history of breathlessness for 3 months duration, cough 2 months duration associated with 6 episodes of hemoptysis. Breathlessness was insidious in onset, mild to moderate (MRC grade I), non-progressive in nature, not associated with any aggravating or relieving factors, had no diurnal variation. No history of associated chest pain, no history of evening rise of temperature or night sweats, no history of weight loss or decreased appetite. No history of PND or orthopnoea, swelling of legs or palpitation. Past history doesn't reveal any history of bronchial asthma or atopy, tuberculosis, coronary artery disease, rheumatic heart disease or any history of aspiration. Patient is a non smoker, non alcoholic, with no family history suggestive of any malignant diseases among first degree relatives. On examination, patient was conscious, oriented, moderately built and nourished. There was no pallor, icterus, cyanosis, clubbing, lymphnode enlargement, pedal edema.

There was no external markers of tuberculosis, no signs of Horner's syndrome. Vitals were normal. Respiratory system examination, inspection, palpation and percussion findings were within normal limits. On auscultation, there was bilateral rhonchi present all over the lung fields, breath sounds were decreased over right axillary, infra axillary regions and vocal resonance was also decreased in the above said areas. Cardiovascular system - normal heart sounds were present. GI examination – per abdomen there was no hepatomegaly or free fluid. Central nerve system examination – no focal neurological deficit.

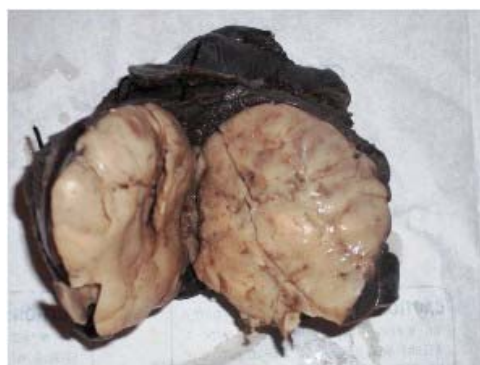
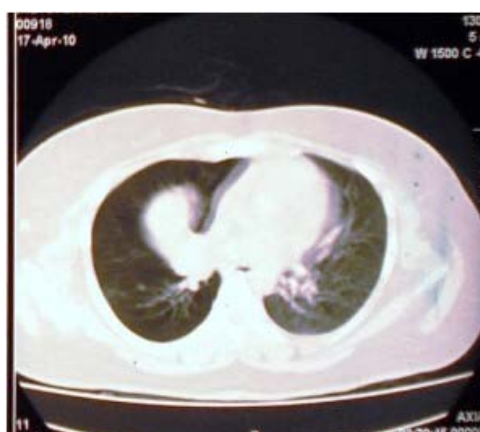
Lab investigations showed Hb -9.2 g%, TC - 11,800, P60% L35% E4% B1%, RBC – 3 million/cmm, platelets- 2lakhs/cmm, PCV- 28%, ESR -8mm/hr, S.Na⁺- 135 mEq/L, S.K⁺ - 3.5mEq/L. Sputum AFB – negative, sputum for malignant cells – negative, sputum culture & sensitivity -no organism grown, RBS – 112 mg%, B. urea- 34 mg%, S. creatinine – 0.9 mg%, LFT: S.bilirubin – 1 mg%, SGOT-25 IU/L, SGPT -23 IU/L, SAP – 68 IU/L, total protein -5.2 g%, chest Xray PA view showed a homogenous opacity of 4 * 5 cm size in right lower lung field, CT Thorax showed lung mass of 4 * 5 cm in the right middle lob, bronchoscopy was not done, PFT showed mild obstructive pattern with minimal/no reversibility with bronchodilator, ECHO – normal study.

Patient was treated with bronchodilators in the form of salbutamol nebulisation, inj. Deriphyllin, Inj. Hydrocortisone and oral antibiotics to cover possible respiratory tract infections. There was only a minimal symptomatic relief of breathlessness and cough. Thoracic Physician and surgeon's opinion was obtained. Both suggested, surgical removal of mass lesion. Patient underwent right middle lobectomy. The pathological examination of specimen showed it as a case of bronchial carcinoid atypical variant. Post operative

period was uneventful and follow up period of the patient was also uneventful and got relieved of all the symptoms.



fig-1,x-ray chest showing homogenous opacity in the right lower lung field. fig-2,CT-chest showing mass lesion in right middle lobe. fig-3,right middle lobectomy specimen with mass lesion.



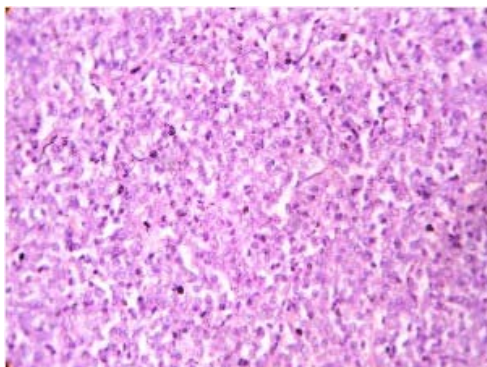


fig-4,HPE showing atypical carcinoid-high grade tumour.



fig-5,x-ray chest(postoperative).

CASE DISCUSSION :

Pulmonary carcinoid tumour represents 1-5% of lung malignancies. The WHO 2004 revisions recognize two distinct subtypes of well differentiated neuro endocrine tumour, typical carcinoid tumor and atypical carcinoid tumor based on there architectural pattern and characteristic cytologic features . It has been viewed neuro endocrine tumor as a continuous spectrum, with carcinoid tumor at one end and small cell carcinoma as an aggressive tumor with nueroendocrine differentiation at other end. 5% of MEN-1 patient is associated with sporadic carcinoid.Carcinoid tumor are malignant nueroendocrine tumor arising from kulchitsky cell. Most common site of carcinoid tumor is G I tract(84%) and second most common site is Respiratory tract (28%). Carcinoid tumor is termed as

“cancer in slow motion” due very slow growth. Based on the microscopic examination Typical carcinoid : <2 mitosis /10 HPF and lack area of necrosis. Atypical carcinoid¹ :> 10 mitosis / 10 HPF and or area of necrosis .

Bronchial carcinoid had equal incidence in both sex ,mean age is 40years , not associated with smoking . Clinical presentation varies depending upon the site of tumor . typical carcinoid can be divided into central and peripheral variant . Both variant can be asymptomatic, but central variant with endobronchial location present post obstructive pneumonia, hemoptysis , localized wheeze . Peripheral carcinoid are frequently sub pleural and can be associated with a scar. There are subset of patients with one or more peripheral cacinoid tumor who have multiple tumorlets and diffuse idiopathic pulmonary nueroendocrine cell hyperplasia (DIPNECH). The most significant complication of this subset of patients is air way fibrosis, which can progress to severe obstructive lung disease and require lung transplant.

Atypical carcinoid was first introduced by Arigoni etal³ in 1971 ,apart from characteristic histologic appearance ,it has high incidence of lymph node metastasis at presentation and in contrast to typical carcinoid nodal disease is a negative predictor of survival

All carcinoid tumor does not produce carcinoid syndrome, because though high levelof nueropeptide and amine level are synthesized ,they may not be release high enough quantity to cause symptom ,or due to its defective chemical nature .carcinoid syndrome are more associated with hepatic metastasis

, primary carcinoid tumor in organs outside portal drainage ,eg; ovary, lung. Clinically symptoms are flushing , diarrhea , wheeze or asthma like symptoms, pellagra, retroperitoneal fibrosis, pulmonary stenosis, tricuspid regurgitation and uncommon presentations are paraneoplastic syndrome such as Cushing syndrome, Acromegaly due release of ACTH and IGF-1.

Apart from routine investigation such chest x - ray (as solitary pulmonary nodule- 80%, pulmonary infiltrate -20%) , CT –chest⁵, MRI- shows hyper intense lesion in T2 weighted image⁴, other investigation such as somatostatin receptor scintigraphy (SRS)² for metastasis in lymph node, serum chromogranin A level for assessing tumor bulk , urinary 5HTP and 5HT for atypical carcinoid, urinary 5HIAA for typical carcinoid

Treatment : surgical resection is the preferred treatment of choice for Typical carcinoid, while for Atypical carcinoid lobectomy and lymph node dissection is done. unresectable tumor – Cisplatin and Etoposide based chemo therapy is given. For treatment of carcinoid syndrome symptoms – Octreotide/Lanotride and Interferon alpha is given. For metastatic disease of liver chemo embolisation using (5 FU, Doxorubicin, Cisplatin)

Prognosis : single most important factor is liver metastasis, others are node status ,tumor histology, increase 5HIAA , male, older age are bad prognostic factor. Five year survival after surgical resection in Typical carcinoid 87-100% , Atypical carcinoid 44-77% ,if node involvement 25-69% .

Follow –up: For the first year after surgery, clinical examination along with a chest X-ray should be done every 2-3 months. If no evidence of recurrence is discovered within one year, follow-up intervals are extended to every 6 months.

Conclusion:

This case report describes a patient who presented with wheeze and hemoptysis, on investigation found to have lung mass , patient underwent middle lobectomy and examination of the pathological specimen revealed atypical carcinoid tumor of (high grade) lung. Atypical carcinoid is more aggressive tumor compared to typical carcinoid tumor ,failure early detection and resection may lead to nodal involvement and metastasis of tumor, leading to drastic effect on post surgical prognosis of patient.

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