Bronchial Carcinoid – A Case Report

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ABSTRACT

Bronchial carcinoids are rare tumours of the lung. These are diagnosed on bronchoscopy, biopsy and histopathology. The timely identification of these tumours can facilitate recurrence free treatment by surgical excision. This case report describes the clinical presentation, diagnosis and management of a patient with bronchial carcinoid

Keywords: Bronchial Carcinoid, Bronchoscopy, Lobectomy, Kerala, India

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INTRODUCTION

Bronchial carcinoids are rare low grade neuroendocrine tumors. They account for less than 2% of all lung tumors. Surgical excision is the main stay of treatment. Hence, early diagnosis and treatment is important. Complete resection of the tumor usually offers a recurrence free survival.

CASE PRESENTATION

The patient was a 67-year-old gentleman, who was a carpenter by occupation. He was a smoker with a smoking index of 500 and alcohol abuser. There were no known comorbidities. There was history of saw dust exposure, He presented with gradually progressive dyspnea on exertion, grade I MMRC earlier, now progressing to grade II MMRC over the past 3 months. There was associated cough, intermittent fever, loss of weight and loss of appetite, and hemoptysis for 1 month.

On examination, his vitals were normal. Chest examination showed decreased chest movement over left upper chest anteriorly, Vocal fremitus and vocal resonance were decreased on left Infraclavicular area. Impaired to dull note was percussed out on the left infraclavicular area. Intensity of breath sounds were reduced on the left infra-clavicular area and monophonic wheeze was heard over the left infraclavicular area. Systemic examination of other systems did not reveal any additional findings.

His blood routine examination, renal function test and liver function test were found to be normal. Sputum examination, smear for Acid fast bacilli and nucleic acid amplification for tuberculosis were negative. Sputum culture and sputum cytology did not reveal any abnormality.

The Chest Xray showed a prominence of the left hilum and left upper lobe haziness (**Figure 1).** This was evaluated further with a CT scan of the thorax, which showed showed calcific area in left hilar region obstructing the left upper lobe bronchus causing left upper lobe collapse (**Figure 2).**

Fibro-optic bronchoscopy was done, which showed a lesion with predominant extraluminal compression completely occluding left upper lobe bronchus, with mucosal bulge extending to left lower-lobe bronchus (**Figure 3).** A bronchoscopy biopsy was taken, which showed neuroendocrine tumor grade 1 [typical carcinoid] with the immune histochemistry showing strong cytoplasmic positive synaptophysin, chromogranin- moderate cytoplasmic positivity and TTF1- Negative / Ki 67- 1%. Patient was diagnosed as Diagnosed as carcinoid tumor lung **(Figure 4).**

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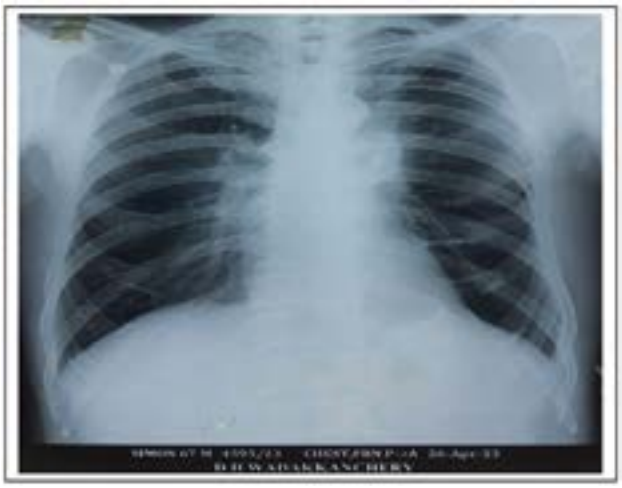

Figure 1. **Chest X-ray – PA view**

He was treated surgically. Left upper lobectomy with sleeve resection of left lower lobe bronchus and sampling of paraesophageal and hilar nodes done **(Figure 5).**

The upper lobectomy specimen biopsied on histopathology showed Typical Carcinoid/ Neuroendocrine tumor grade 1, mitotic figure- 1 mf/2 mm2 with no areas of necrosis. Regional lymphnodes showed reactive changes only.

Postop period was uneventful and patient is currently doing well. Serial post operative X-rays showed good post operative recovery **(Figure 6).**

DISCUSSION

Bronchial carcinoids are low grade neuroendocrine tumors that arise from tracheobronchial Kulchitsky cells. It typically occurs in young and middle-aged patients, with a mean age of 55 years and equal female-male distribution. World Health Organization classified these tumors based on mitotic activity and necrosis into typical & atypical carcinoids.[1]

Typical carcinoids have rare mitotic figures and necrosis is absent. Atypical carcinoids have increased mitotic activity and demonstrate tumor necrosis. Typical carcinoids can have central and peripheral variants. Both variants can be asymptomatic, but central carcinoids, which characteristically grow as an endobronchial mass, may present clinically with recurrent pneumonias or hemoptysis.[1] In our case, patient was a smoker with high smoking index and had gradually progressive dyspnea on exertion and cough with hemoptysis. Since it is a rare tumor, and typical carcinoids not being associated with tobacco use and having symptoms which are often non-specific, it is often not considered in differential diagnosis and leading to delay in diagnosis. Hence, it is necessary to investigate all patients with risk of malignancy thoroughly with CT chest and bronchoscopy followed by biopsy. Although carcinoid tumor is a rare tumor, we still have to consider this as one of the differential diagnoses. A rare presentation of pulmonary carcinoid is paraneoplastic syndromes, such as Cushing's syndrome, carcinoid syndrome due to the release of corticotropin, vasoactive substance respectively.[2] None of these were present in our patient. In our case we proceeded with CT followed by bronchoscopic biopsy and histologic analysis, since typical and atypical carcinoids demonstrate similar features on imaging studies so biopsy is necessary to differentiate between two. Complete surgical excision is most effective treatment. Recurrence free survival is common in patients with typical carcinoid. We proceeded with left upper lobectomy with sleeve resection of left lower lobe bronchus and sampling of paraesophageal and

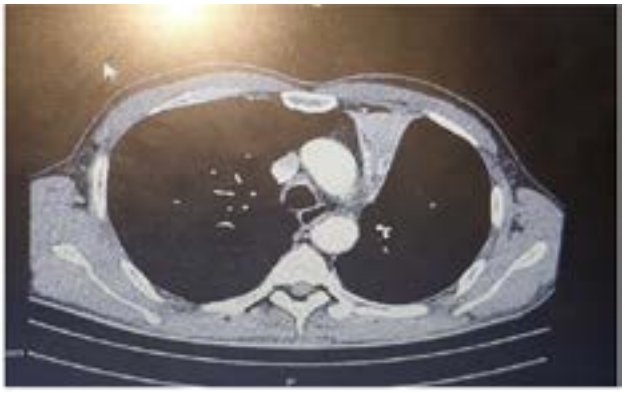

Figure 2. **CT Thorax (Mediastinal window)**

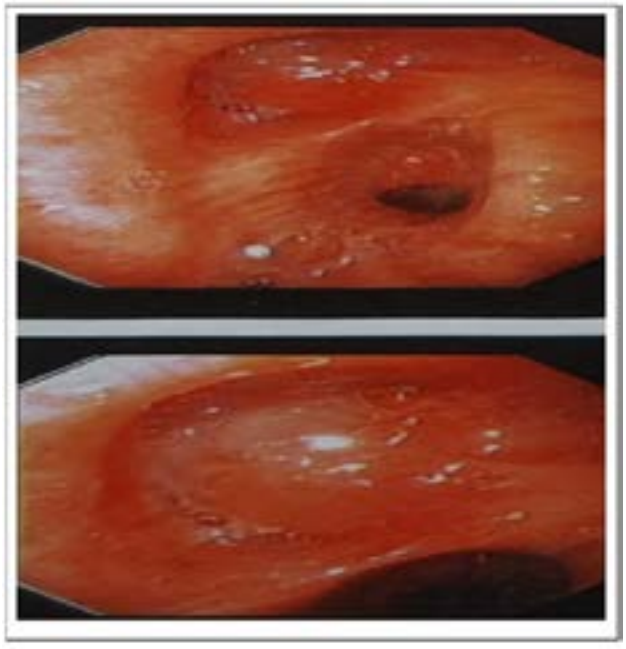

Figure 3. **Fibro-optic bronchoscopy image**

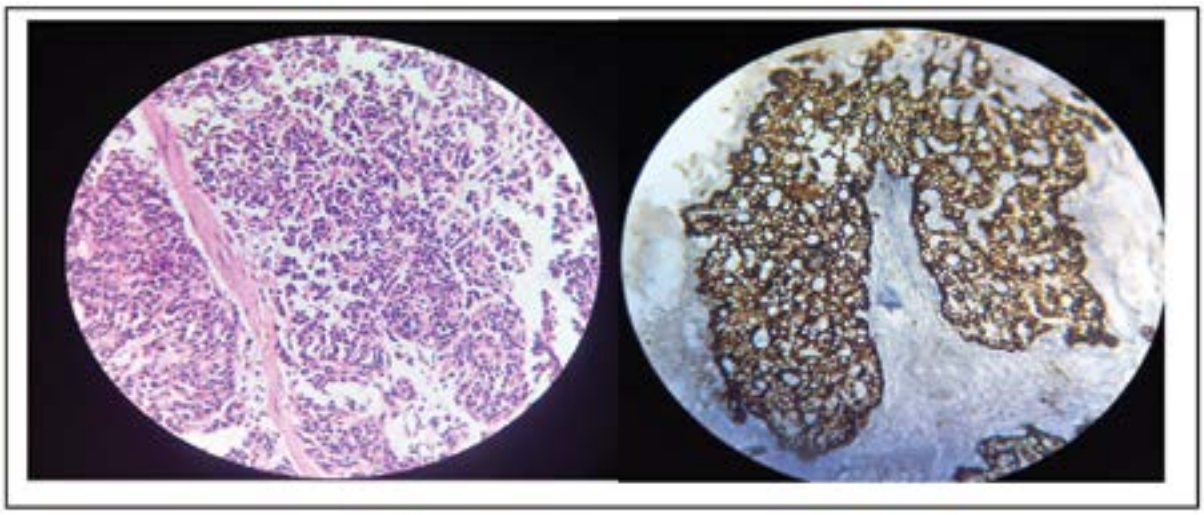

Figure 4. **Histopathology image of the bronchoscopy biopsy specimen**

hilar nodes done. Post operative period was uneventful. Tumor histology and nodal status are the main predictors of mortality. 5 years survival rates following complete resection of typical and atypical carcinoids are 87% to 100% and 44% to 77% respectively. [1] Survival decreases in the presence of nodal metastases. Metastasis commonly occurs to mediastinal lymph nodes followed by liver. Carcinoid tumors have poor response for adjuvant chemo and radiotherapy making complete resection of tumor with regional lymph nodes remain the main stay of treatment. Our patient was not initiated in any adjuvant therapy, he was followed with radiologic imaging and he was symptomatically better and there is no evidence of recurrence or metastasis.

CONCLUSION

Bronchial carcinoid tumours are rare slow growing tumours, and should be treated in an interdisciplinary centre. Symptoms are mainly nonspecific which may often lead to delay in diagnosis, so we thoroughly evaluated for neuroendocrine tumours with bronchoscopy biopsy in those with malignancy suspicion because timely surgical intervention usually offers a good outcome and symptom free survival in most patients with no evidence of systemic metastasis. Regular follow up is necessary especially those with large tumours and lymph node metastasis as the chance of recurrence is relatively higher. So timely diagnosis

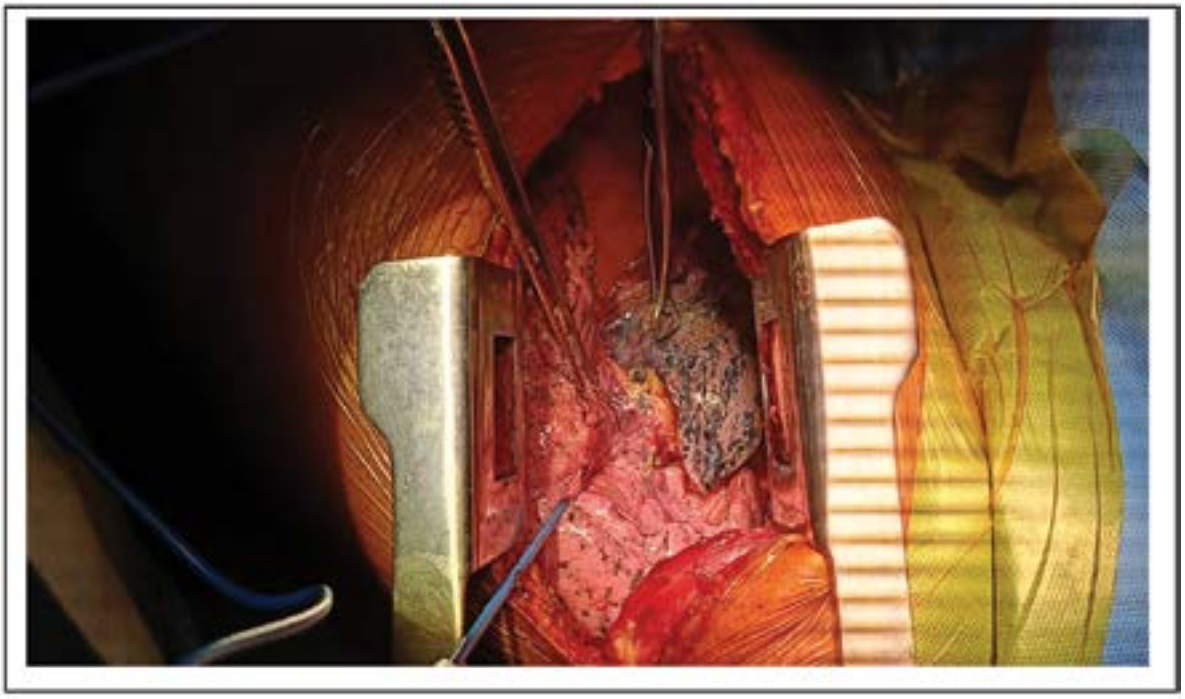

Figure 5. **Image of the resection surgery being done for the patient**

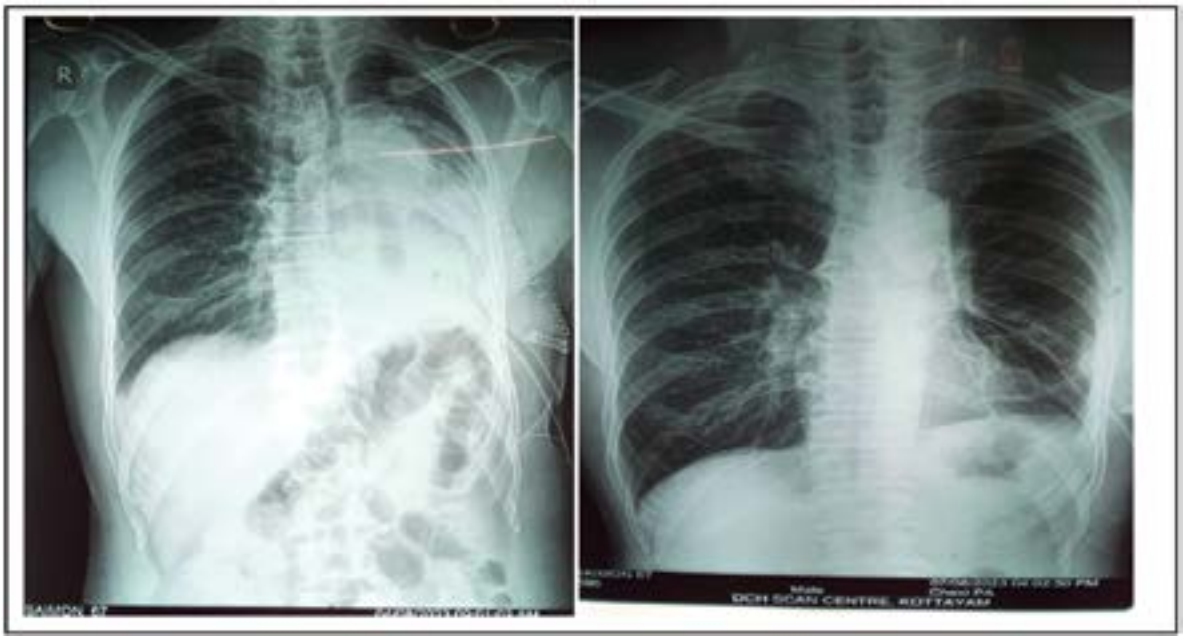

Figure 6. **Post operative chest X-rays**

and intervention play a key role in active management of carcinoid tumour

END NOTE

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Conflict of Interest: None declared

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