



## Coexistence of Pulmonary tuberculosis and lung cancer

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### Abstract

Pulmonary Tuberculosis can co-exist with lung malignancy masking the underlying disorder leading to delay in diagnosis and management. Here we present an interesting case of a 72 year old female who on initial presentation was diagnosed with tuberculosis but later developed plural effusion during treatment and on investigation was found to have an underlying lung malignancy.

**Keywords:** Lung carcinoma, Tuberculosis

**Abbreviations:** HRZE-Isoniazid, Rifampicin, Pyrazinamide, Etambutol, DOTS-Directly Observed Treatment Shortterm, TB-Tuberculosis

### Introduction

Pulmonary Tuberculosis and lung carcinoma are the two co morbidities that have been shown in many studies to coexist. Many of Signs and symptoms of Pulmonary Tuberculosis mimics lung carcinoma and coexistence increases mortality and morbidity. So we are presenting a case which had pulmonary Tuberculosis and later developed carcinoma lung.

### Case Report

History: 72 year old female presented with breathlessness and cough for 4 months .She had history of decreased appetite. She is a known case of Diabetes mellitus and hypertension and is on medication for the same. No family history of

similar complaints or chronic illness. Past history of hospitalisation in our hospital 2 months back for similar complaints for two weeks. H/o of intake of Antitubercular medication for last two months(4 drugs HRZE (DOTS regime).

Physical examination revealed pallor. There was no icterus, cyanosis, clubbing and bony tenderness.

Heart rate- 90/min, Respiratory rate 32/min. Respiratory distress present use of accessory muscles of respiration present.

**Chest examination:** Right side of chest appeared prominent. Breath sounds were decreased on right

side of chest in mammary, infraaxillary, infrascapular area Bronchial breath sounds and whispering pectoriloquy were present on right mammary area and axillary area.

Systemic examination was normal.

**On Investigations:** Patient had anemia with leucocytosis. Erythrocyte sedimentation rate was raised (64). Liver function tests and Renal function tests were within normal limits.

Chest X ray (Fig:1,2) of patient showed consolidation initially which had progressed to pleural effusion in one month. CT Scan(Fig :3,4) showed consolidative changes involving right upper lobe with areas of breakdown and soft

tissue attenuation within the cavity, with adjacent consolidative changes involving right upper lobe. Patient was given broad spectrum antibiotics. Bronchoalveolar lavage was done which had shown Acid fast bacilli positivity. On this basis Antitubercular treatment (4drugs HRZE) was started. But symptoms of patient worsened in form that she developed breathing difficulty and loss of appetite. Repeat Xray showed right sided moderate pleural effusion. Ultrasound chest showed moderate pleural effusion on right side and minimal on left side. CT scan with CT guided biopsy was done which showed Mitotic mass in right upper lobe showing mediastinal invasion with moderate degree of right sided pleural effusion, pleural deposits .

Figure 1: Chest X ray



Figure 2 Chest X ray (done after one month)

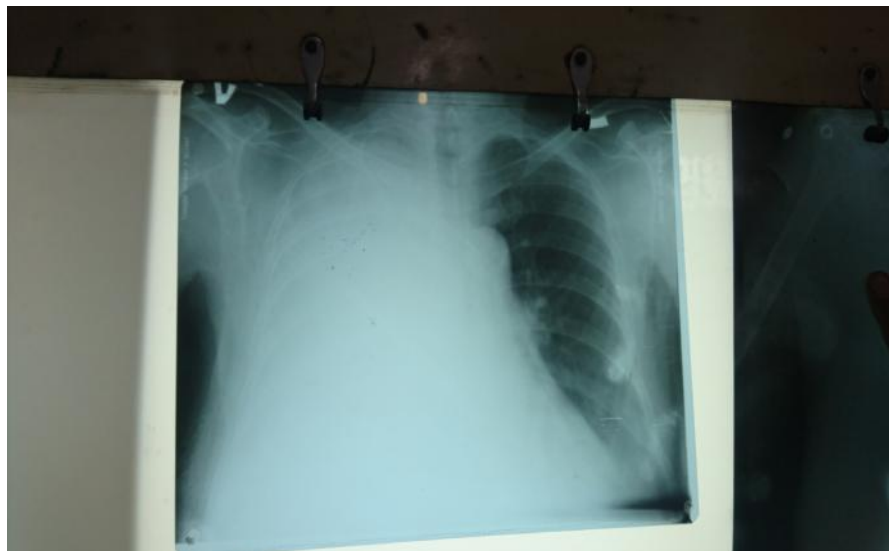


Figure 3:CT scan Chest

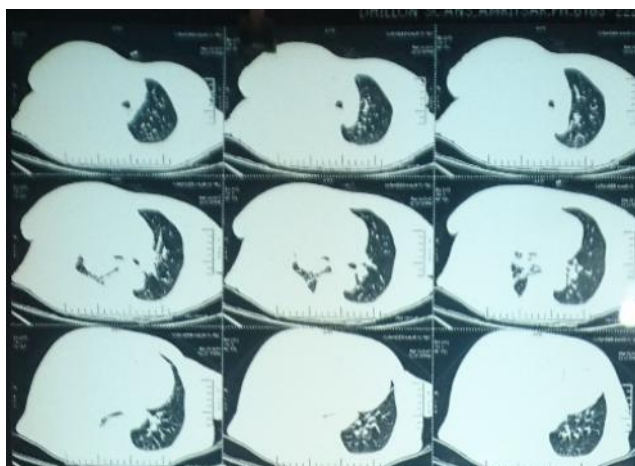
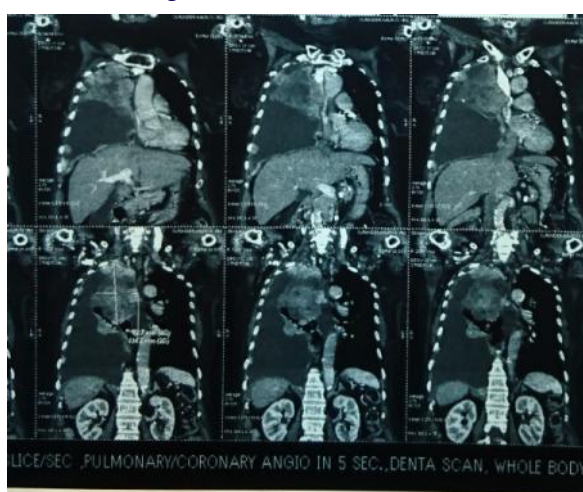


Figure 4 CT scan Cheat



Cytology showed High grade malignant spindle cell sarcoma/high grade undifferentiated pleomorphic sarcoma. ATT was continued and Patient was referred to higher center for treatment of lung carcinoma.

### Discussion

Lung cancer, also known as lung carcinoma,<sup>[1]</sup> is a malignant lung tumor characterized by uncontrolled cell growth in tissues of the lung.<sup>[2]</sup> Worldwide in 2012, lung cancer occurred in 1.8 million people and resulted in 1.6 million deaths.<sup>[3]</sup> The most common age at diagnosis is 70 years. In 2015, there were an estimated 10.4 million new (incident) TB cases worldwide, of which 5.9 million (56%) were among men, 3.5 million (34%) among women and 1.0 million (10%) among children.<sup>4</sup>

The simultaneous or sequential occurrence of pulmonary tuberculosis and Lung carcinoma in the same patient has been reported in various case series and case-control studies.<sup>(5-10)</sup>

It has been suggested that inflammation and pulmonary fibrosis caused by tuberculosis can induce genetic damage, which can increase lung carcinoma risk.<sup>(11-13)</sup> The increased occurrence of Lung carcinoma in patients with tuberculosis can also be related to infection-induced immunosuppression.<sup>14</sup> Cancer-induced or chemotherapy-induced immunosuppression can also lead to increased rates of tuberculosis reactivation in patients with solid tumors.<sup>15</sup>

Our case report showed that Tuberculosis and carcinoma can coexist in lung and requires early institution of treatment. The association between these two diseases is important, since both are quite prevalent and have a major impact on public health.

## Conclusion

High index of suspicion of coexistence of pulmonary tuberculosis and lung carcinoma should be kept when an old aged patient presents with symptoms and signs of any one of them.

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