

Hemoptysis and Severe Weight Loss in an Old Case of Pulmonary Tuberculosis

Khajotia R*

Hospital Tuanku Ja'afar, International Medical University, Seremban, Malaysia

*Corresponding author: Khajotia R, Hospital Tuanku Ja'afar, International Medical University, Seremban, Malaysia, Tel: (00606) 767 7798; Fax: 06-762 5771; E-mail: rkajotia98@gmail.com

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Abstract

A 44 year old man presented with history of productive cough since 5 years. He now complained of hemoptysis (about 1½ cupful a day) and a severe weight loss of 12 kg over the past 2 months. He had pulmonary tuberculosis 7 years ago for which he had taken 6 months treatment then. On examination, patient appeared cachexic his vital parameters were normal. Trachea was significantly shifted to the right side. Chest examination revealed tubular bronchial breath sounds in the left infraclavicular region extending up to the 3 intercostal spaces and in the right interscapular region posteriorly. A chest radiograph was done.

Keywords: Weight loss; Pulmonary tuberculosis; Chest radiograph; Adenocarcinoma

Case Report

Interpret the Chest Radiograph

Chest radiograph shows a tracheal shift to the right side. Multiple areas of cavitation are seen in both the right and left upper-and-mid-zones of the lungs. Irregular opacities are seen in the mid-and-lower zones on both sides. Cardiac shadow is shifted to the right side. Right costophrenic angle is obliterated (possibly due to pleural thickening) and the right hemidiaphragm appears tented and elevated. Right hemithorax appears to be contracted as compared to the left. Some compensatory hyperinflation of the left lung is noted (Figure 1).



Figure 1: Chest radiograph.

Based on the Clinical History, Examination and Radiographic Findings what is the Most Likely Diagnosis in this Patient?

Bilateral cavitory lung tuberculosis with right-sided fibrothorax.

What are the Complications that this Patient should be Investigated for?

This patient should be investigated for:

- Reactivation/reinfection of pulmonary tuberculosis
- Drug-resistant tuberculosis (MDR TB, XDR TB, XXDR TB)
- Fungal ball (aspergilloma) in chronic tuberculous cavities
- Malignant changes in chronic long-standing tuberculous scars

What are the Most Important Investigations Needed to be Performed in this Patient?

- bacterial culture and antibiotic sensitivity, fungal culture, malignant cells (cytology)
- Full blood count
- ESR
- Liver functions/renal functions
- HIV testing
- Tumor markers
- HRCT chest scan
- Flexible bronchoscopy (incl. BAL, bronchial brushings and biopsy, if required)

On flexible bronchoscopy, bleeding was noticed in the anterior and apical segments of the right upper lobe (RUL). Bronchoalveolar lavage (BAL) and bronchial brushings were done from the RUL, right middle lobe (RML), left upper lobe (LUL) and the lingual segment on the left side. Acid-fast bacilli (AFB) were seen on smear but the culture was negative for AFB. However, cytology of the bronchial brushings from the RUL and RML segments showed presence of adenocarcinoma.

What is the Final Diagnosis in this Patient?

Adenocarcinoma in a case of long-standing pulmonary tuberculosis.

Discussion

Diagnosis of lung cancer in patients with long-standing tuberculosis though rare has been reported. In one study the combination of lung cancer and long-standing pulmonary tuberculosis was seen in 46(2.1%) out of 2218 cases [1]. Epidermoid carcinoma and stage IIIA or stage III B disease was diagnosed in 50% of patients. This study also claimed that surgery was the treatment of choice in tuberculous patients who developed lung cancer. Median survival of patients in this study was 28 ± 2 months.

Diagnosis of lung carcinoma in patients with pulmonary tuberculosis or in patients with old scars of tuberculosis possesses some peculiar features. The diagnosis in these cases depends on a variety of clinical features that occur due to coexistence of these diseases, the clinical course and site of cancer (usually in the vicinity of long-standing tuberculous scarring). The clinical features include worsening of the patients' general condition, increasing breathlessness, persistent cough and blood in the sputum.

Chest radiography usually shows new infiltrates of varying sizes in the area of old tuberculous scars which may or may not be accompanied by atelectasis [1]. Moreover, when a new clinical signs not typical for pulmonary tuberculosis occurs other etiological causes including development of malignancy should be considered [2]. According to some studies, post-tuberculosis scars deform blood and lymphatic vessels significantly resulting in lymphostasis which creates

ripe conditions for the deposition of carcinogens and development of malignancy [3-5]. It is also postulated that lung carcinoma may occur as a result of chronic inflammatory changes causing metaplasia of the epithelium in the bronchi and alveoli and in the calcified lymph nodes [6]. In patients with long-standing tuberculosis who develop lung cancer the diagnosis may be clinically confusing and difficult. In such cases flexible bronchoscopy, HRCT chest scan and transthoracic lung biopsy if needed; should be conducted in order to arrive at a definitive diagnosis.

References

1. Cicen S, Vencevicius V(2007) Lung cancer in patients with tuberculosis. *World J Surg Oncol* 5: 22.
2. Wu AH, Fontham ET, Reynolds P, Greenberg RS, Butfler P, et al. (1995) Previous lung diseases and risk of lung cancer among lifetime nonsmoking women in the United States. *Am J Epidemiol* 141: 1023-1032.
3. Drent M, Wagenaar SS, Mudler PH, Velzen-Blad HV, Diamant M, et al. (1994) Bronchoalveolar lavage fluid profiles in sarcoidosis, tuberculosis. An evaluation of differences. *Chest* 105: 514-519.
4. Tamura A, Hebisawa A, Hayashi K, Sagara Y, Kawabe Y, et al. (1999) Lung cancer in patients who had received thorocoplasty for pulmonary. *Jpn J Clin Oncol* 29: 541-545.
5. Watanabe A, Tokue Y, Takashi H, Sato K, Nukiwa T, et al. (1999) Management of mycobacteriosis in general hospital without isolation ward for tuberculosis patients. *Clinical study on pulmonary tuberculosis associated with lung cancer patients. Kekkaku* 74: 157-162.
6. Cukic V (2017) The association between lung carcinoma and tuberculosis. *Med Arch* 71: 212-214.