

Bronchial associated lymphoid tissue lymphoma with bronchiectasis in a pretreated tuberculosis patient

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INTRODUCTION

Bronchial-associated lymphoid tissue (BALT) lymphoma is a distinct subgroup of low-grade B-cell extranodal non-Hodgkin's lymphoma, which is traditionally included under mucosa associated lymphoid tissue (MALT) Lymphomas. According to the REAL classification it is termed as extranodal marginal-zone lymphoma. Primary extranodal BALT lymphoma is a rare entity and accounts for less than 1% of all lymphomas [1]. Chronic antigenic stimulation, triggered by an autoimmune process or by persistent infection, is thought to stimulate the development of benign MALT at these sites. Similarly many investigators believe that BALT is not a normal constituent of human lungs and its development is driven by long-term exposure to various antigenic stimuli [2].

We report a well proven, treated and followed up patient of BALT lymphoma of lung associated with bronchiectasis who was earlier treated for pulmonary tuberculosis.

CASE REPORT

A fifty six year old female was admitted in Oncology department with history of cough, insidious onset of backache between shoulder blades, on and off giddiness, and vomiting of one month duration. She was a proved case of pulmonary tuberculosis for which she had received antitubercular treatment one year ago.

On examination she had pallor and there was no significant lymphadenopathy. Respiratory system examination revealed marked reduction in air entry over the right infraclavicular and upper zone of right lung.

Chest Radiograph (Fig.1) revealed a large nonhomogenous opacity in the right upper and mid zone. The lesion had a well-defined lower margin and ill-defined upper margin. There was abrupt narrowing of the right main bronchus. Medially the lesion was seen to be in

contact with mediastinum and was not silhouetting the cardiac border. Few areas of calcifications were noted within the lesion. No adjacent bone destruction was seen. Blunting of costophrenic angles with apical pleural caps, suggestive of pleural effusion was seen. The left lung fields showed multiple cystic areas in the perihilar location with interstitial and peribronchial thickening, suggestive of cystic bronchiectasis. Similar areas of bronchiectatic changes were noted in the right lower zone. CT scan of the thorax (Fig.2 and Fig.3) revealed large soft tissue density mass of size 8.1 x 7 x 6.3 cm in the right upper and mid zone involving the posterior and the upper lobe and apical and lateral segments of the lower and the median lobe respectively. The mass was non homogenous contrast enhancing and was seen extending from the hilum medially to the chest wall laterally with pleural involvement. Focal calcification was seen in the medial part of the mass. There was no evidence of mediastinal lymphadenopathy.



Fig.1 - Chest Radiograph showing a large nonhomogenous opacity in the right upper and mid zone.

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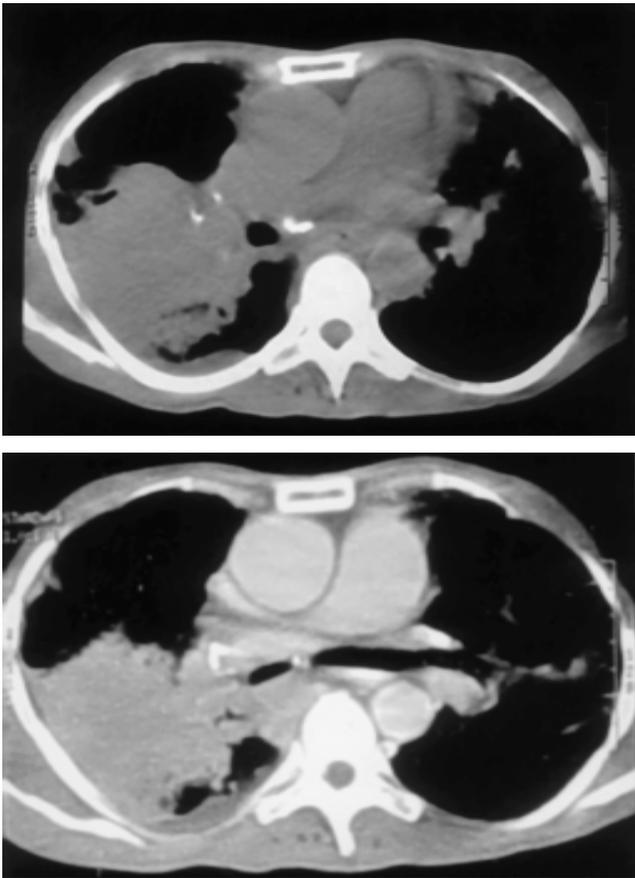


Fig 2 & 3- Plain and contrast enhanced CT of thorax showing a non homogenous contrast enhancing mass extending from the hilum to the chest wall.

Trucut biopsy of the lung mass (Fig.4) showed sheets of abnormal noncleaved lymphoid cells having dark staining nucleus and clumped chromatin. Interspersed with these cells were a few histiocytes. The tumor cells were positive for CD45, CD19, CD20 and negative for CD45 RO which confirmed the histological diagnosis of Extranodal marginal zone B-cell Non Hodgkin's Lymphoma / BALT lymphoma.

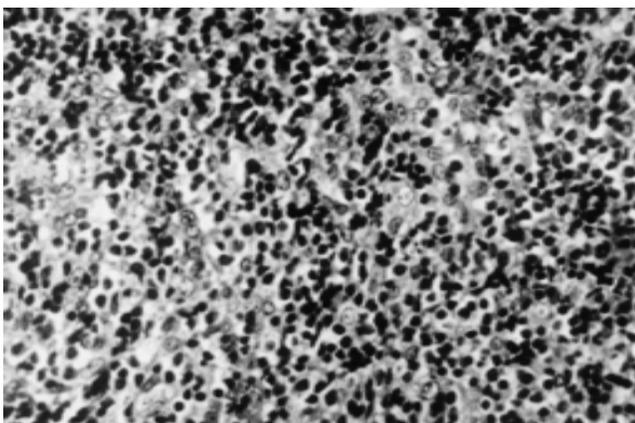


Fig 4 - Photomicrograph (H & E 20x) showing sheets of non cleaved neoplastic lymphoid cells.

Complete staging workup for lymphoma was done, which confirmed the disease to be primarily from the lung and was staged as Stage IE.

As she was symptomatic she was started on Cyclophosphamide, Adriamycin, Vincristine and Prednisone (CHOP) chemotherapy on 1st March 2004. She completed six courses of the same on 29th June 2004 with good symptomatic relief. Post chemotherapy CT scan (Fig.5) showed complete regression of the mass. Presently she is on regular follow up with no evidence of disease.

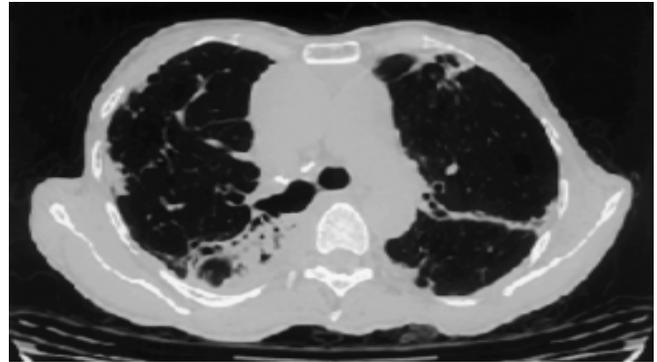


Fig 5 - Post chemotherapy CT thorax showing complete regression of the primary tumor.

DISCUSSION

The interesting aspect about this patient is the association of BALT lymphoma with bronchiectasis, who was previously treated for pulmonary tuberculosis. BALT is not as well investigated as gastrointestinal mucosa-associated lymphoid tissue. The primary lymphoid tumors of lung are rare, although lung is a frequent site of secondary involvement by Hodgkin's and non-Hodgkin's lymphoma [3].

Risk of non-Hodgkin's lymphoma following tuberculosis has been on the rise [4]. In particular, the association of MALT lymphoma including BALT lymphoma with autoimmune diseases such as Sjögren's syndrome and adult immunodeficiency syndrome is well known. BALT Lymphoma arising in a patient with bronchiectasis and chronic mycobacterium avium infection has been reported [5]. Similarly malignant lymphoma of bronchus-associated lymphoid tissue (BALT) coexistent with pulmonary tuberculosis has also been documented [6].

BALT lymphomas usually appear as airspace consolidation or nodules with air bronchogram or with adjacent ground-glass attenuation at CT. These findings are similar to those previously described for pseudolymphomas. Multiple bilateral lesions are common in BALT lymphoma, while Bubble-like radiolucencies can also be an additional finding [7].

Lymphomas are considered systemic disorders that must be treated by chemotherapy and/or irradiation. Immunohistochemical and in some cases DNA based studies aid in the diagnosis and appropriate classification of the lymphomas, especially when small samples are obtained by less invasive procedures such as transthoracic or transbronchial biopsy [1].

BALT lymphomas usually exhibit an indolent course with 5-year survivals in excess of 90% [5]. Malignant lymphomas arising in MALT remain localized until late in their natural history and thus carry a better prognosis than lymphomas arising in lymph node of similar stage [3]. Prognostic factors influencing survival and optimal therapy for MALT lymphoma, however, have not been clearly defined [3].

The optimum management of BALT lymphomas remains unclear, with surgery followed by either chemotherapy or radiotherapy being the most commonly adopted approach [5].

In summary, primary non-Hodgkin's lymphoma of the lung is a rare entity with generally nonspecific clinical and radiographic signs at the time of diagnosis. Overall, these lymphomas are associated with a good prognosis and excellent long-term survival.

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