

## Case Report

### **Mediastinal lymph node tuberculosis in an adult: a case report**

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#### **Abstract**

Mediastinal lymph node enlargement is an uncommon feature of intrathoracic tuberculosis in adults, whereas it is the rule in primary tuberculosis in children. Herein, we report a 56-year-old female with three-year history of non-productive cough, which was diagnosed as mediastinal lymph node tuberculosis.

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**M**ediastinal lymph node involvement is usually an event of primary, childhood tuberculosis (TB). Mediastinal nodes may cause many complications including: incomplete bronchial obstruction (ball-valve), inflation of middle and lower lobes, complete bronchial obstruction and collapse of right lower lobe without consolidation, collapse after partial consolidation, erosion into bronchus inducing tuberculosis broncho-pneumonia, and pericardial effusion due to rupture of node through pericardium<sup>1</sup>. Physical signs of wheezing and persistent cough are often associated with striking evidence of enlarged lymph node on the roentgenogram. Early recognition is important since prompt treatment may result in shrinkage and disappearance of the nodes if they have not undergone extensive caseation<sup>2</sup>.

#### **Case report**

A 56-year-old female Isfahani housekeeper presented with a non-productive cough dating back three years. Recently she had developed some dyspnea. She had no fever or

constitutional symptoms. Chest X-ray showed mediastinal widening and multiple mediastinal lymph nodes (figure 1). In spiral CT of the thorax the lungs were free and multiple large mediastinal and hilar lymph nodes were seen especially in the right side (figure 2). Bronchoscopy findings included left main bronchus bulging with normal mucosal pattern (extra-bronchial mass effect). Alveolar washing



**Figure 1.** Chest X-ray showing multiple mediastinal lymph nodes.

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**Figure 2.** CT of the thorax showing multiple mediastinal nodes and clear lungs.

revealed reactive bronchial cells, inflammatory cells and alveolar macrophages, no acid-fast bacilli and malignant cells were reported. Mantoux test was done by 5IU. PPD was negative (5 mm induration), ESR was 45 mm/hour and other laboratory data were within normal limits. Ultimately, CT- (computerized tomography) guided trans-axillary approach needle biopsy of the hilar mass was performed under aseptic preparation; pathology reported caseating granulomas. Ziehl-Neelsen staining was negative. Mycobacterium tuberculosis grew on culture after two months. DOTS (Directly Observed Therapy Short-course) anti-tuberculosis regimen with rifampicin, isoniazid, ethambutol, and pyrazinamide without steroids was initiated for the patient. All of the patient's symptoms subsided after the course of therapy.

## Discussion

This case is interesting because mediastinal tuberculous lymphadenitis is a rare event in adults. Other common conditions including sarcoidosis, carcinoma, sarcoma, and lymphoma should be rule out. Today, new interventional radiological procedures are superseding thoracotomy. Domingo reported an 85-year old woman with isolated mediastinal lymph node tuberculosis diagnosed by cervical mediastinoscopy<sup>3</sup>. CT-guided fine needle aspiration biopsy (FNAB) is a useful and safe procedure and should be considered in the initial evaluation of patients suspected of having mediastinal mass<sup>4</sup>. Despite a wide spectrum of differential diagnoses, traditionally granulomatous lymphadenitis is tentatively diagnosed as tuberculous lymphadenitis because it continues to be the most frequent cause of granulomatous lymphadenitis in many parts of the world<sup>5</sup>. The laboratory diagnosis of tuberculous lymphadenitis is made by either conventional techniques of tissue or aspirate revealing AFB (acid fast bacillus) on Ziehl-Nelsen staining and or growing mycobacterium tuberculosis on culture, or caseating granulomas with or without AFB on histologic or cytological examination<sup>6</sup>. The detection rate for mycobacterium tuberculosis from fine needle aspirates is low by microbiological techniques. Therefore, there is a need for improving sensitivity of tuberculous lymphadenitis diagnosis in fine needle aspirates. Many authors recommend combination of conventional techniques and PCR (polymerase chain reaction) for the early diagnosis of TB especially in paucibacillary specimens or when there is another concomitant lesion to achieve maximum sensitivity<sup>7-9</sup>.

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