Original Article

Cervical Lymphadenitis of Tubercular Origin : A case of MDR-TB

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Abstract

Tuberculosis (TB) is the most common cause of chronic cervical lymphadenopathy in India, which is a TB-endemic zone. Multidrug-resistant tuberculosis (MDR-TB) is when strains of Mycobacterium are resistant to the first-line anti-tuberculosis drugs such as isoniazid and rifampicin with or without resistance to other drugs. Drug-resistant tuberculosis is a continuing threat in India. We present a case report of 22 year old young male, with recurrence of cervical lymphadenitis, which turned out to be a case of MDR-TB on further evaluation.

Keywords : Cervical lymphadenitis, MDR-TB, CBNAAT.

Introduction

Tubercular lymphadenitis is one of the most common extrapulmonary manifestations of TB. The most common lymph nodes involved are in the cervical region .The emergence of resistance to drugs used to treat tuberculosis, has become a major concern in a number of countries including India. An estimated 10.4 million people developed Tuberculosis and 1.3 million people died of the disease globally in 2016 and there was drug resistance for rifampicin about 20% of new TB patients.[1]

Case report

A 22 year old male patient presented to our department with the complaints of a swelling in the right lateral side of the neck of one year duration which was of the size of a lemon and gradually progressed to the present size of 6x5 cm in dimension (Figure 1). He gave the history of loss of weight and intermittent fever since 6 months. There was no history of cough with expectoration, haemoptysis or any other stigmata of tuberculosis. There was no history of rapid increase in the swelling size or pain.

Patient had similar complaints of swelling over the right lateral side of the neck, 6 months back, which was of the size of 3x4 cm as told by the patient and it was diagnosed as Cervical Tuberculosis, for which he had taken Anti Tubercular Therapy (ATT) for 4 months from a Govt. hospital (TB centre). He discontinued the treatment on his own without consulting the doctor. Again after 2 months, he developed swelling in the right aspect of the neck and he presented to our ENT department.

On examination the swelling was about 6x5 cm in the region of the middle third of the neck, on the right side underneath the sternocleido mastoid muscle. Skin over the swelling appear to be normal. No visible pulsations, sinus or fistula and/or engorged veins. Swelling was lobulated, no local rise of temperature or tenderness and was firm in consistency and matted. Skin over the swelling was normal and pinchable. Swelling was not pulsatile and not compressible. Trachea was shifted to

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left side and laryngeal frame work was normal. On Auscultation no bruit heard.

On Otorhinolaryngology examination in detail, nothing abnormal found.

On investigation, chest X-ray PA view (Figure 2) showed tracheal shift to left side and the lung field was normal and there was no mediastinal widening.

Ultrasound-neck showed lymphnode measuring 5.5x 6.2 cm at the lymphnode levels of II, III and IV along with few discrete lymph nodes and did not suggest any neck secondaries.

Ultrasound guided fine needle aspiration cytology (FNAC): Smear studied showed, scattered lymphocytes admixed with ill-formed granulomas composed of epithelial cells. Background showed necrotic debris, fibrous stroma and RBCs. (Figure 3), which is suggestive of necrotizing granulomatous lymphadenitis.

In view of these findings and history from his mother that he had taken ATT for four months treatment has been restarted. Physician's evaluation and advice was taken and treatment started as default TB case (Category 2 treatment). But patient did not show much improvement even after the commencement of category 2 drug regimen. Following which sputum has been sent for CBNAAT (Cartridge-Based Nucleic Acid Amplification Test) and diagnosed as Rifampicin resistant case. Then the patient has been included under MDR-TB category and treatment restarted as per MDR-TB treatment guidelines.

Drug regimen included, Flouroquinolones and Second line injectable agents.

(Conventional MDR-TB regimen).

Drug Regimen as follows:

Lfx Km Eto Cs Z E (Intensive Phase) for 6-9 months.

Lfx Eto Cs E (Continuation Phase) for 18 months.

Lfx: Levofloxacin 1000 mg/day,

Km : Kanamycin 750 mg/day,

Eto : Ethionamide 750 mg/day,

Cs: Cycloserine750 mg/day,

Z: Pyrazinamide 1750 mg/day,

E : Ethambutol 1200 mg/day.

Patient showed substantial improvement in overall health status after the commencement of the MDR-TB treatment and size of the swelling also started reducing. He is still on regular follow up under our department. He is on his Intensive phase of treatment now and is taking treatment on a regular basis.

Figure 1 showing swelling over the right lateral side of the neck.

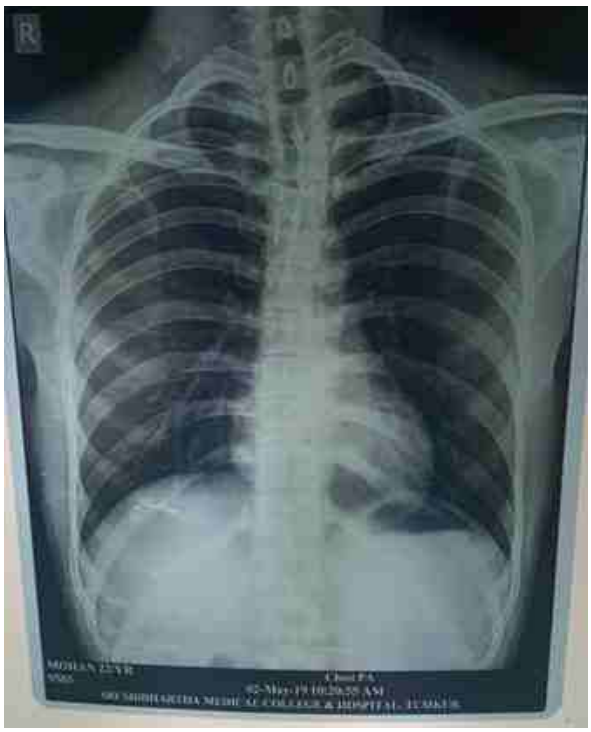

Figure 2 Chest Xray PA view : Showing tracheal shift to the left.

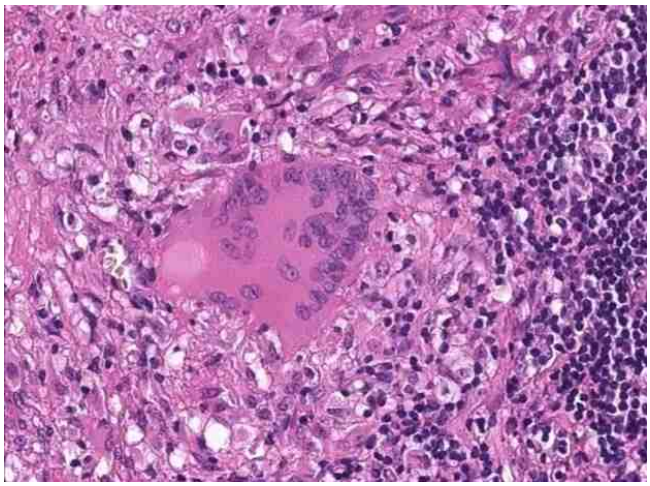

Figure 3: Histopathology slide, showing necrotizing granulomatous lymphadenitis. H & E. 200X

Discussion

Tubercular lymphadenitis generally presents with enlarging neck lymph nodes over weeks to months which is usually associated with weight loss, fever and fatigue. The time between the onset of symptoms, clinical presentation and final diagnosis is often too long.[2]

Diagnosis is difficult often requiring biopsy in most cases. It is also important to differentiate tuberculous infection from nontubercular mycobacterial cervical lymphadenitis as their treatment protocols vary. Diagnosis has become more complex due to marked increase in the incidence of atypical mycobacteria, poorly controlled HIV epidemic and rise of drug-resistant TB lymphadenitis. Tuberculous adenitis is best treated as a systemic disease with antituberculosis therapy[3].

In differential diagnosis of chronic painless cervical lymphadenopathy, cervical tubercular lymphadenitis should be kept in mind. A high index of suspicion is needed for diagnosis of tubercular lymphadenitis, which is known to mimic a number of pathological conditions[4].

Specific measures are being taken within the Revised National Tuberculosis Control Programme (RNTCP) to address the MDR-TB problem through appropriate management of patients and strategies to prevent the propagation and dissemination of MDR-TB. The term "Programmatic Management of Drug Resistant TB" (PMDT) refers to programme based MDR-TB diagnosis, management and treatment. These guidelines promote full integration of basic TB control and PMDT activities under the RNTCP, so that patients with TB are evaluated for drug-resistance and placed on the appropriate treatment regimen and properly managed from the outset of treatment or as early as possible[1].

Data from studies conducted by National Institute for Research in Tuberculosis (NIRT), have found MDR-TB levels of 1% to 3% in new cases and around 12% in re-treatment cases[5,6].

RNTCP has recently undertaken three community-based state level drug resistance surveillance (DRS) studies in Gujarat, Maharashtra and Andhra Pradesh. These surveys have been conducted as per a common generic protocol based on internationally accepted methodology and have estimated the prevalence of MDR-TB to be about 3% in new cases and 12-17% in re-treatment cases[7].

It is well known that poor treatment practices is the main reason for emergence of drug resistance. Areas with a poor TB control tend to have higher rates of drug resistant tuberculosis cases. RNTCP recognises that implementation of a good quality DOTS programme through out the country is the first priority for TB control. Prevention of emergence of MDR-TB in the community is more imperative rather than its treatment.

In our case, from the history patient has been categorized as default TB case initially. After obtaining the report of CBNAAT only we could confirm it as a MDR-TB case. So proper diagnosis is the main stay of management of cases like MDR-TB.

Conclusion

Cervical lymphadenitis is the most common head and neck manifestation of tubercular infections. It can occur as a unilateral single or multiple painless lump, mostly located in posterior cervical or supraclavicular region. It can develop either as a manifestation of a systemic tuberculous disease or as a unique clinical entity which is localized to the neck.

A thorough history and physical examination, tuberculin test, staining for acid-fast bacilli, radiologic examination and fine-needle aspiration cytology are essential in arriving at an early diagnosis. Counselling and regular follow up is a must and is the responsibility of the medical practitioner.

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Conflicts of interest : Nil

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