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Research Article

TREATMENT OUTCOME OF TUBERCULOUS LYMPHADENITIS

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ABSTRACT

Objective: To evaluate treatment outcome of tuberculous (TB) lymphadenitis at Bhausaheb Sardesai Talegaon Rural Hospital (BSTRH), Attached with M.I.M.E.R. Medical college, Talegaon Dabhade, Maharashtra.

Results: Of total 757 tuberculosis cases and 202 extrapulmonary amongst them, 70 (9.24%) patients had TB lymphadenitis. The mean age was 28.8 ± 12 years. Commonly affected site observed cervical group 40 (57.1%) with single node involvement seen in 54 (77.1%) cases. Sputum AFB positive in 1 patient (1.4%), HIV association seen in 3 (4.3%) cases. Fever and anorexia were most frequently reported symptoms. Fine needle aspiration showed positive results in majority of cases 61 (n=70, 87.1%). One (1.4%) patient diagnosed multiple drug resistance. Paradoxical reaction was observed in 5 (7.2%) patients. All patients were treated with Directly Observed Therapy. Fifty nine (84.3%) patients were treated successfully, 4 (5.7%) patients required extension of treatment. five (7.2%) patients exhibited paradoxical reaction, one (1.4%) patient showed relapse. One (1.4%) patient diagnosed multiple drug resistant and required 2nd line of antitubercular treatment.

Conclusion: Lymphnode is commonly affected organ by tuberculosis (9.24%). Lymphnode tuberculosis is most common form of extrapulmonary tuberculosis (34.6%). Incidence was slightly higher in female than male gender. FNA is most reliable diagnostic test. TB lymphadenitis cases showing paradoxical reaction and or relapse should be subjected for drug susceptibility testing to rule out drug resistance tuberculosis.

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INTRODUCTION

Tuberculosis is a disease that has afflicted humankind before and throughout recorded history. The first written description of TB is from India around 700 BC.¹ Tuberculosis can spread to other body tissues and organs through the blood stream and the lymphatic system². With the global increase in the incidence of human immunodeficiency virus (HIV) there has been a steady increase in extrapulmonary tuberculosis³. Lymphnode tuberculosis constitutes 20-40% of extrapulmonary tuberculosis⁴. Tuberculous lymphadenitis also known as scrofula (King's Evil)⁵ was first described 3,000 years ago and is one of the common forms of extrapulmonary tuberculosis. In areas where tuberculosis is endemic, TB adenitis continues to be common cause of lymphadenopathy and atypical mycobacteria are seldomly isolated. Commonly involved superficial lymphnodes include those in posterior and anterior cervical chains or the suprascapular fossae but other groups like submandibular, preauricular, axillary and inguinal may also get involved. Often lymphadenopathy is bilateral and noncontiguous⁶. Intraabdominal and intrathoracic group of lymphnodes also get affected. In recent days TB lymphadenitis

patients have shown harboring drug resistant and multiple drug resistant tubercle bacilli, although at a low prevalence which is a major concern in treating these cases. Overall level of resistance to first line anti-TB drugs among retreated TB lymphadenitis cases is 23.1%⁷.

MATERIAL AND METHODS

Bhausaheb Sardesai Rural Hospital, MIMER medical college, Talegaon is tertiary care centre and referral centre for tuberculosis patients. All patients with confirmed diagnosis of tuberculous lymphadenitis from year 2012 to 2015 were studied prospectively.

The study was approved by the Ethics Committee of MIMER Medical college. Informed consent was obtained from each patient before inclusion in the study.

Patients attending the chest out patient department and referred from medicine/ paediatric, otorhinolaryngology and surgery department of study centre with peripheral, superficial lymphnode enlargement were assessed for inclusion. General clinical assessment using medical history, physical examination and routine laboratory test was performed. Fine – needle

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aspiration cytology and or lymph node excision biopsy were performed to establish the diagnosis. HIV testing, Mantoux test, Chest X-rays and ultrasonography of abdomen with pelvis were performed in all patients. Sputum microscopy for acid fast bacilli was advised for all patients with complain of cough.

Diagnosis of Tuberculosis was done based on the World Health Organisation definitions.⁸ Those patients diagnosed on histocytological criteria (presence of granulomatous inflammation with or without caseation) were included in the study with informed written consent. For those whose fine-needle aspiration cytology was inconclusive confirmation was done with biopsy. The diagnosis was also supported by tuberculin skin test.

All new patients were started on the standard RNTCP Category I DOT regimen, relapse and failure cases started on Category II DOT regimen. Diagnosed multiple drug resistant case on 2nd line antitubercular regimen.

Follow up assessments were done at 2, 4, 8 and 24 weeks. Repeat FNAC and or lymphnode biopsy was performed in case of further enlargement of lymphnode or appearance of new lymphnode or sinus formation combined with acid fast bacilli microscopic examination and culture. Follow up assessments were made at 9 months, 12 months and 18 months for extended treatment.

Treatment outcome at the end of 6 months were defined as follows: 1) Cure: complete resolution of symptoms, and disappearance of nodes 2)Improvement: resolution of symptoms ,reduction in the size and number of nodes 3) Paradoxical reaction: appearance of new lymphnode or increase in size of node or sinus formation which is bacteriologically negative while on treatment. 4) Multiple Drug Resistance: Aspirates from lymphnode grown acid fast bacilli resistant to isoniazid and rifampicin when patient showed failure while on DOTS Category I.

Group 2 patients were given extended regimen of daily Isoniazid And Rifampicin for 6 months Group 3 patients were given no further treatment but reassurance and follow up . Group 4 patient switched over to 2nd line antitubercular treatment.

Statistical analysis

The data were analyzed using statistical software SPSS version 16. The data with quantitative variables are presented as mean ($\pm$ standard deviation). Complete diasappearance of lymphnode or significant reduction in size considered a favourable response to treatment.

RESULTS

Of the 757 patients of Tuberculosis , 70 (9.24%) diagnosed of tubercular lymphadenitis. Total 70 patients, with mean age of 28.8 ± 12 years were included in the study. Of 70, 29 cases (41.4%) were male and 41 cases (58.6%) were female. With the male to female ratio 0.71:1.00. Incidence of TB lymphadenitis was highest among the age group of 20-29 years(38.6%).(Table 1) Common clinical symptoms included fever (28.6%), anorexia (21.4%), and weight loss (12.9%).(Table 2) Incidence of TB lymphadenitis with HIV association reported in 3 cases (n=70, 4.3%). Of these 3, (66.6%) were males. Commonest site of distribution of lesion

reported was cervical group of lymphnode(57.1%) followed by axillary(12.9%), submandibular (12.9%) and supraclavicular (10%). Single node involvement due to TB reported high compared to two and multiple lymphnode affection; that is (77.1%), (4.3%) and (18.6%) respectively.(Table 3)

Mantoux test was positive in (55.7%) cases. Only one patient was sputum AFB positive. Chest X ray was performed in all patients; only 7 (10%) showed lesions. Ultrasonography of abdomen and pelvis was done in all patients; 25 (35.71%) showed affection by tuberculosis. Fine needle aspirtion and cytology was diagnostic in (77.1%) cases. 12 patients required biopsy,one patient's sample showed growth resistant to Isoniazid and Rifampicin when subjected for AFB culture and sensitivity.

Complete or significant cure seen in 59 cases (84.3%). In 4 patients (5.7%) treatment was extended for 6 months. 5 cases (7.2%) showed paradoxical reaction while on treatment. Relapse in 1 (1.4%). Failure to 1st line due to multidrug resistance was in one case (1.4%).

Table 1 Age distribution of the cases studied (n=70)

Age Group (years)	No. of cases	% of cases
<20.0	16	22.9
20.0 – 29.0	27	38.6
30.0 – 39.0	11	15.7
40.0 – 49.0	11	15.7
50.0 – 60.0	5	7.1
Total	70	100.0

Values are n (% of cases)

Table 2 Distribution of cases studied according to clinical signs on presentation (n=70)

Clinical Signs	No. of cases	% of cases
Fever	20	28.6
Anorexia	15	21.4
Weight loss	9	12.9
Abdominal pain	2	2.9
Cough	2	2.9
Other	4	5.7

Values are n (% of cases).

Table 3 Distribution of cases studied according to number of LNs (n=70)

No. of LNs	No. of cases	% of cases
Single	54	77.1
Double	3	4.3
Multiple	13	18.6
Total	70	100.0

Values are n (% of cases).

DISCUSSION

TB lymphadenitis is the most common form of extrapulmonary tuberculosis. Tuberculosis is responsible for 30 – 52% of disease causing lymphadenopathy in developing countries, whereas in developed countries it is only 1.6%^{3,9}. Incidence of tuberculous lymphadenitis is more in female children and young females^{10,11}. In study from referral centre of Northern India ; females were affected more commonly than males due to tuberculous lymphadenitis¹². This observation is confirmed in our study , male to female ratio of affection is 0.71:1.00. In terms of age, the incidence of tuberculous lymphadenitis was significantly high in the age group of 21-30, followed by 50-

60,31-40 and 41-50 years³. Common associated symptoms were fever (28.6%) and anorexia(21.4%). Cervical lymphnodes are the most common site of lymphnode group involvement by tuberculosis. It is reported in 60 to 90% patients with or without involvement of other lymphoid tissue¹³. Single cervical lymphnode enlargement observed in study done at Dhaka medical college hospital was (40.44%) contrast to our study where single node enlargement is seen in (77.1%)¹⁴. In same study abnormal chest X-ray was found in (27.87%) cases while in study of cervical tuberculous lymphadenitis done at Government Medical College hospital Chandigarh, India; chest lesions on radiography were evident in 16% of the patients^{14,15}.

Mantoux test is cheapest, easy to perform and supportive tool to reach the final diagnosis of tuberculosis. In literature, its reactivity is reported from none to very strong. But its negativity does not rule out tuberculosis. Zuber Ahmad reported positive tuberculin test in only (27.7%) cases¹⁶. In this study we report (55.7%)cases with positive tuberculin test.

In case of Drug resistant tuberculosis; pulmonary tuberculosis is common mode of presentation, EPTB accounts for 20% cases in immunocompetent patients where it goes upto 50-55% in HIV patients¹⁷. There are very few reports of multi drug resistant tuberculosis (MDR TB) at extrapulmonary site from India¹⁸. In various studies among new cases , MDR- TB in Lymphnode reported was 1.3% at Ethiopia, 1.3% in Tanzania, 1.6% in Benin, 2.6% in South Africa and 3.4% in Mozambique⁷.

The persistence of enlarged lymphadenopathy as well as the appearance of new lymphnodes remains enigmatic clinical question¹⁹. Upto 25% patients experience a paradoxical deterioration usually manifest as enlargement of the existing nodes irrespective of HIV infection or ART²⁰. In study done by Chahed H et al at Tunisia, paradoxical reaction was reported in (13.4%) patients²¹.

With review of other studies and confirming same with this study FNAC of lymphnode was the most common first line method to establish the diagnosis of tuberculous lymphadenitis^{3,19}. Over last two to three decades, fine needle aspiration cytology (FNAC) has emerged as a simple, less expensive out-patient procedure for the diagnosis of tuberculous lymphadenitis²². It has replaced lymphnode biopsy as a routine diagnostic procedure though lymphnode biopsy has role to differentiate between relapse, failure and or paradoxical reaction.

CONCLUSION

To conclude tuberculous lymphadenitis is more common form amongst extrapulmonary tuberculosis affecting females commonly with cervical lymphnode involvement predominantly. Fine needle aspiration cytology is cheap, painless and reliable method for diagnosis. Tuberculous lymphadenitis responds to first line antitubercular treatment with discomfort due to paradoxical reaction and persistent small sized lymphnode in few cases. Further study is required on MDR-TB lymphadenitis. Frequent follow up, reassurance and counselling is required for good patient compliance and successful results especially when treatment is prolonged and or second line ATT is administered.

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