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Research Article

Human immunodeficiency virus associated tuberculous lymphadenitis: a clinical study of 50 cases of Saurastra region of Gujarat, India

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ABSTRACT

Background: Tuberculosis continues to be one of the most important public health problems worldwide. HIV-TB co-infection contributes greatly to morbidity & mortality in patients. The objective of the study was to study clinical profile of tuberculous lymphadenitis in HIV positive patients.
Methods: The present study was conducted in the Department of Tuberculosis and Chest Diseases, P.D.U. Medical College and Hospital, Rajkot during June 2011 to August 2012. Total 50 indoor HIV positive patients clinically suspected of having tuberculous lymphadenitis were included by purposive sampling method. Information regarding past and family history were collected after taking written consent using pre designed, pretested semi structured Performa. Patient were examined and evaluated by necessary investigation. Data was statistically analysed using SPSS software (trial version).
Results: Out of total 50 patients, 42 (84%) patients were male. Age range of patients was 11 to 70 years with mean age was 34.8 ±10.3 years. All 50 patients presented with painless swelling. 11 (22%) patients had past history and 3 (6%) had family history of tuberculosis. 47 (94%) patients had cervical lymphadenopathy. 5 (10%) had sputum positive pulmonary tuberculosis. 21 (42%) patients were already on anti-retro viral therapy (ART). 23 (46%) patients had epithelioid granuloma with necrosis followed by 18 (36%) patients had epithelioid granuloma without necrosis revealed by FNAC. Half of the patients had abnormal chest radiograph with infiltration and pleural effusion in 14% and 10% respectively.
Conclusions: Cervical and axillary lymphadenopathy was most common involved site in tuberculous lymphadenitis in HIV positive patients. FNAC is a relatively inexpensive initial investigative technique in the diagnosis and management of HIV-positive patients.

Keywords: HIV-TB, Tuberculous lymphadenopathy, ART, FNAC, Extra-pulmonary TB, Tuberculosis

INTRODUCTION

Tuberculosis continues to be one of the most important public health problems worldwide. It infects one third of the world's population at any point of time.[1] In India 1.8 million new TB cases occurring annually. The serious concern is large number of HIV infection in India, which is almost high and in some states it is already 1% of the population. High prevalence of TB cases in India and increasing number of HIV positive cases could be dangerous combination and a serious threat to the control programme. WHO has estimated a prevalence of 1.2% of HIV in adult TB patients in India.[2] Tuberculosis is the most common opportunistic infection in HIV-infected patients. HIV-TB co-infection contributes greatly to morbidity & mortality in these patients.

Extapulmonary tuberculosis is a common form of tuberculosis in HIV-infected patients, Peripheral lymphadenopathy being the commonest. Its correlation with demographic features, pulmonary involvement, CD4 count, ESR, radiological features & other characteristics is important for the diagnosis & management of the patients. FNAC is a cheap, rapid & easy procedure for diagnosis, obviating the need of excision biopsy. Standard DOTS therapy is similarly efficacious in patients with or without HIV.[3] The present study had been carried out to study clinical profile of tuberculous lymphadenitis in HIV positive patients.

METHODS

The present study was conducted in the Department of Tuberculosis and Chest Diseases, P.D.U. Medical College and Hospital, Rajkot during June 2011 to August 2012. Total 50 indoor HIV positive patients clinically suspected of having tuberculous lymphadenitis were included by purposive sampling method. After taking informed written consent, these indoor HIV positive patients were interviewed using pre designed, pretested semi structured Performa containing detail history of personal habits, past history of tuberculosis, family history of tuberculosis. They were examined clinically and evaluated using investigation like routine haemogram, chest x-ray, USG neck and abdomen, sputum examination of AFB with Z-N stain, serological test for HIV infection and Fine Needle Aspiration Cytology (FNAC). Data was statistically analysed using SPSS software (trial version).

RESULTS

Out of total 50 patients, 42 (84%) patients were male. Age range of patients was 11 to 70 years with mean age was 34.8 ±10.3 years (Table 1). All 50 patient presented with swelling, 45 (90%) patients had anorexia, 43 (86%) had weight loss as presenting symptoms (Table 2). 11 (22%) patients had past history and 3 (6%) had family history of tuberculosis.

29 (58%) patients had involvement of only single lymph node. Majority (70%) had firm lymphadenopathy (Table 3). 47 (94%) patients had cervical lymphadenopathy (Table 4). Out of 50, 5 (10%) had sputum positive pulmonary tuberculosis. Half of the patients had 200-399 CD4 count/cu mm with mean CD4 count was 239/cu mm. Out of 50, 21 (42%) patients were already on anti-retro viral therapy (ART).

23 (46%) patients had epitheloid granuloma with necrosis followed by 18 (36%) patients had epitheloid granuloma without necrosis revealed by FNAC (Table 5). Acid fast bacilli (AFB) were detected in 24% of the patients by FNAC. Half of the patients had abnormal chest radiograph with infiltration and pleural effusion in 14% and 10% respectively. Out of 50, 39 (78%) were put on category-1 treatment and rest were in category-2 treatment as per Revised National Tuberculosis Control Programme.

Table 1: Distribution of patients according to their age groups.

Age(years)	No.of patients	Percentage (%)
11-20	2	4
21-30	12	24
31-40	27	54
41-50	8	16
>50	1	2
Total	50	100

Table 2: Distribution of patients according to symptomatology.

Symptoms	No.of patients	Percentage (%)
Swelling	50	100
Pain	7	14
Fever	39	78
Weight loss	43	86
Anorexia	45	90
Respiratory symptoms	32	64
Intestinal tract symptoms	14	28

Table 3: Distribution of patients according to characteristic of lymphnode.

Characteristic	No.of patients	Percentage (%)
Single	29	58%
Multiple	21	42%
Firm	35	70%
Soft	14	28%
Hard	1	2%
Sinus/ulcer	6	12%

Table 4: Distribution of patients according to involvement of sites of lymphnode.

Sites	No.of patients	Percentage (%)
Cervical	47	94
Axillary	5	10
Mediastinal	7	14
Abdominal	17	34
Inguinal	2	4

Table 5: Distribution of patients according to FNAC finding of tuberculous lymphadenitis.

FNAC finding	No. of patients	Percentage (%)
Epitheloid granuloma with necrosis	23	46(%)
Epitheloid granoloma without necrosis	18	36(%)
Necrosis without epirhelial granuloma	9	18(%)
Total	50	100(%)

DISCUSSION

In Amer khan et al 48% patient were in 21-40 years age groups. 53.2% were male. 73.2% had fever as a presenting symptoms followed by anorexia in 66.6% and weight loss in 63.3%.[4] In Shobhana et al 74 % were male. Mean CD4 count was 212/cu mm. AFB was detected in 36.6% of patients.[5] In Perenboom et al AFB was detected in 35% of patients by FNAC.[6]

In study of cervical lymphadenopathy by S.Rajasekaran et al 37.5% patients had epithelioid granuloma without necrosis followed by 25% patients had epithelioid granuloma with necrosis revealed by FNAC. 31.2% had infiltration and 12.5% had pleural effusion.[7] In C Ben et al 99% patients had cervical lymphadenopathy. Axillary involvement was also seen in 83% of patients. 46% had infiltration and 15% had pleural effusion.[8] In Mohan et al 96% had cervical followed by 82% had axillary lymphadenopathy.[9] In Kamana et al Mean CD4 count was 152/cu mm.[10] In Vanisri et al 47.6% patients had epithelioid granuloma with necrosis followed by 28.5% patients had epithelioid granuloma without necrosis revealed by FNAC.[11] In Guru et al 46.8% patients had epithelioid granuloma with necrosis followed by 7.28% patients had epithelioid granuloma without necrosis as per FNAC findings. Necrosis without epithelial granuloma was present in 45.83% of patients.[12] In present study necrosis without epithelial granuloma was present in 20% of the patients, typical granuloma formation and caseation were observed in 36% of the HIV seropositives, representing an early phase of immuno-suppression and the remaining 46% patients had atypical necrotizing granulomatous features, a pattern consistent with advanced HIV disease.

CONCLUSIONS

Cervical and axillary lymphadenopathy was most common involved site in tuberculous lymphadenitis in HIV positive patients with painless swelling was most common presenting symptom. FNAC is a relatively inexpensive initial investigative technique in the diagnosis and management of HIV-positive patients. It can obviate the need for surgical excision and enable immediate treatment of specific infections. Tuberculosis in HIV-AIDS patients is still an important and fairly common opportunistic infection. All HIV-AIDS patients needs to be screened for evidence of pulmonary and extra pulmonary TB and all the patients with TB needs to be screened for HIV co-infection.

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