IJCRR
Vol 06 issue 06
Section: Healthcare
Category: Research
Received on: 26/01/14
Revised on: 17/02/14
Accepted on: 05/03/14

TUBERCULAR CERVICAL LYMPHADENITIS : EXPERIENCE OVER A FOUR YEAR PERIOD

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ABSTRACT

Objective: This Study was done with the Aim to investigate various Clinico-pathological aspects of Tubercular cervical lymphadenitis.

Material and Methods: Four hundred patients with cervical lymphadenopathy of all age group, out of which 220 males and 180 females who attended OPD of NIMS Medical college, Jaipur between March 2009 and Feb 2013 were included in study.FNAC of Cervical lymph nodes was done. The lymph node biopsy was done in selected patients. Mycobacterial culture was also done in selected patients. Total 218 cases of tubercular cervical lymphadenitis (proved by FNAC/Biopsy) were included in this study.

Results: Most common cause of cervical lymphadenopathy was found to be tubercular in 218 patients (54.5%). Female/Male Ratio was 1:84. Younger Age Group (15-30 years) was most commonly affected, seen in 77 patients (35.32%). Diagnostic accuracy of FNAC in tubercular lymphadenitis was 95.41% .Concurrent pulmonary tuberculosis was seen in 33 patients (15%).Constitutional symptoms were present in 32 patients(14.67%).Montoux Test was positive in 100 patients(45.87%). Posterior Triangle of neck was most commonly involved.Commonest presentation of tubercular lymph nodes was multiple matted lymph nodes, seen in 110 patients (50.45%).In our study 150 patients (68.80%) presented as 2-4cms size lymph nodes.

Conclusion: This study also emphasizes that complications can be minimized by regular anti tubercular treatment, good patient compliance and regular follow up especially for development of fresh complications.

Keywords: Tubercular cervical lymphadenitis, FNAC, ATT, Defaulters, Excisional biopsy, mycobacterium culture.

INTRODUCTION

Cervical lymphadenopathy is one of the commonest clinical presentation of the patients attending hospital outdoor.Grossly cervical lymph node enlargement can be classified as Acute and chronic cervical lymphadenitis. Chronic cervical lymphadenitis usually presents as chronic painless enlargement of cervical lymph nodes. Etiology of chronic cervical lymphadenitis is either tubercular or due to secondary malignant deposits or lymphomas. Tubercular lymphadenitis (historically referred to as scorfula) is the commonest form of extrapulmonary tuberculosis reported in children from TB endemic areas ,present in 8-10% of children diagnosed with TB in India and South Africa (1,2). Lymph nodes become infected with mycobacterium tuberculosis following lymphatic drainage from local disease site or after haemetogenousdisiminetion .The aim of this study was to investigate various clinicopathological aspects of tubercular cervical lymphdenitis among patients presenting to our institute over a four year period.

MATERIALS AND METHODS

Four hundred patients with cervical lymphadenopathy of age group,new born to seventy five years,out of which 220 males and 180 females who attended OPD of NIMS Medical college, Jaipur between March 2009 and Feb 2013 were included in study .Written Informed consent was obtained from all study subjects. All patients were clinically assessed and a detalied history was taken regarding age , sex ,mode of onset ,duration, distribution, family history, presence or absence of pain, fever, weakness, loss of weight, night sweats, anemia, cough, progress of disease. All clinical records were maintained. After taking patient's history, full clinical examination was done. Special emphasis was made to site/size/clinical stage of cervical lymph node. All patients were subjected to routine investigations CBC, ESR, MT, X-Ray chest PA view. FNAC of Cervical lymph nodes was done with help of 10cc disposable syringe and needle (22gauge). Half smears were dried in air and half were fixed by immersing in absolute alcohol for one hour .The lymph node biopsy was done in selected patients. Mycobacterial culture was also done in selected patients.Total 218 cases of tubercular cervical lymphadenitis (proved by FNAC/Biopsy) were included in this study.

OBSERVATIONS

Out of total 400 patients, 220 (55%) were males and rest 180(45%) were females.

Tubercular lymphedentis was the most common FNAC finding in 208 patients (52%) followed by Reactive hyperplasia in 100 patients (25%).

Table-1 Distribution of Cases according to FNAC (n=400)

FNAC findings	Number of cases (%)
Tubercular lymphadenitis	208(52%)
Reactive Hyperplasia	100(25%)
Secondaries	52(13%)
Lymphomas	36(9%)
Miscellaneous	4(1%)

Excision Biopsy was done in 100 patients of Reactive Hyperplasia (By FNAC) out of which 10 cases proved to be Tubercular. So overall 218(54.5%) patients were found to have

Tubercular cervical lymphadenitis. FNAC was positive in 208 patients (95.41%) in Tubercular cervical lymphadenitis.

Table 2- Age-wise distribution (n=218)

Age group (years)	Tubercular Cervical lymphadenitis
0-15	67(30.73%)
15-30	77(35.32%)
30-45	42(19.20%)
>45	32(14.60%)

Males were found to have tubercular cervical lymphadenitis in 100 patients as compared to 118 female patients. Male/Female Ratio was 0.84. Family history was positive in 55 patients (25%) Concurrent Pulmonary T.B. was found in 33 patients (15%) Constitutional Symptoms were present in 32 patients (14.67%) in form of fatigue/bodyache in 10 patients, loss of weight(Adults)/failure to thrive (Children) in 7 patients,cough in 6 patients,fever in 5 patients,night sweats in 4 patients

Table 3: MONTOUX TEST (>10mm) Positive

Tubercular(n=218)	**100(45.87%)**
Nontubercular(n=182)	**36(19.78%)**

Posterior Triangle of neck lymph nodes were most commonly involved followed by upper deep cervical , submandibular ,supraclavicular , Preauricular lymph nodes in decreasing order.

Table 4 Prevalence of occurence

Site	**Number (%)**
Posterior triangle of neck	**98(44.95%)**
Upper deep cervical L.N.	**66(30.27%)**
Submandibular	**20(9.17%)**
Supraclavicular	**18(8.25%)**
Preauricular	**16(7.33%)**

In study of Size of Tubercular cervical L.N , it was seen that maximum number of Lymph nodes were in size group 2-4cm in 150 Patients (68.80%) followed by > 4X4cm group in 41 Patients (18.80%) and least in < 2X2cm group in 27Pts(12.38%).

Patients with Tubercular cervical L.N presented in various clinical stages in this study which is summarized in following Table. Assesment of Cervical Lymph node was done after minimum of 4 weeks of Antibiotics course.

Table 5- Clinical Stages of Tubercular Cervical Lymph Nodes

Character of swelling	**Number (%)**
Single firm	**20(9.17%)**
Multiple Discrete	**32(14.67%)**
Multiple Malted	**110(50.45%)**
Abscess Stage **A. Soft Fluctuant(without sec. Infection)** **B.Soft Fluctuant(with sec. Infection)**	 **25(11.46%)** **15(6.88%)**
Sinus/Ulcer	**16(7.33%)**

Pus sent for Mycobacterial culture from 56 patients (40 patients with Abscess stage and 16 patients with discharging Sinus/Ulcer.) Pus culture for mycobacterial infection was found to be positive in 38patients (67.85%).

All patients with Tubercular cervical lymphadenitis were given course of ATT as per standard guidelines. Patients were followed after starting course of ATT in two groups. First Group comprised good compliance Patients and 2nd Group comprised poor compliance patients/defaulters.

Table 6-Followup of patients on ATT

	Good Compliance Patients 153 (70.18%)	**Poor Compliance /Defaulters 65 (29.81%)**
Appearance of Fresh Nodes	**3**	**7**
Increase size of Node	**3**	**6**
Fresh Abscess Development	**4**	**6**
Fresh Sinus Formation	**4**	**7**
Total	**14 (9.15%)**	**26 (40%)**

DISCUSSION

Lymphadenitis is the most frequently occurring form of pulmonary TB, with cervical Nodes being most commonly involved in adults. Although inguinal, mesenteric and mediastinal Nodes may be involved (1, 2.)

It has been found that by FNAC alone, 208 patients (52%) were found to have tubercular cervical lymphadenitis followed next by Reactive Hyperplasia in 100 patients (25%). These 100 patients with Reactive Hyperplasia group were also subjected to Excisional Biopsy. It has been found in our study that 10 patients of Reactive Hyperplasia group proved to be Tubercular by Excisional Biopsy. So overall by Excicional Biopsy overall 218 (54.5%) patients proved to be tubercular in our study. This study emphasises that Tubercular cervical lymphadenitis is one of the most common clinical presentation of Extra pulmonary tuberculosis.

In our study, FNAC of cervical lymph Node Biopsy was positive for Tubercular lesion in 208 patients, out of 218 patients. So, Diagnostic accuracy of FNAC in Tubercular Cervical lymphadenitis was 95.41% in our study. This study emphasises importance of FNAC in diagnosis of Tubercular Cervical Lymphadenopathy. Fine Needle aspiration is suggested as an initial investigation if lymph node Tuberculosis is suspected. (3)

FNAC constituted main diagnostic tool, with positive yield in 90% on Patients, TB cervical lymphadenitis can be readily diagnosed by FNAC as a simple and cost-effective test. (4)

Fine needle aspiration is simple, cheap and may be of value in the diagnosis of Tuberculosis, especially in developing countries with limited diagnostic and therapeutic resources.(5)

In our study, 77 patients(15.32%) were found to have Tubercular Cervical Lymphadenitis in 15-30 year age group, followed by 67 patients (30.73%) patients in children age group (0-15 yr); 42 patients (19.20%) in 30-45 years age group and 32 patients (14.60%) in >45 age group. Our study shows maximum incidence of Tubercular Cervical Lymphadenitis in younger and children age group.Tuberculosis was found to be common in young patients who are in accordance with local data as well as international data. (6)In another study, Tuberculosis found to be commomest in young adult females (15-24yrs) age group and rare above age of 45yrs. (7)

It has peak incidence in 20-40 age groups. (8) In our study. Tubercular Lymphadenitis was found in 118 (54.12%) female patients as compared to 100 (45.87%) male patients. So in our study, M: F was 0.84:1.

TB lymphadenitis is showing some atypical characteristics for its distribution according to age and sex as it is more common in females and in younger age groups, in compare to pulmonary TB which is more commonly affects males and older age group.(9)

Family History of any form of Tuberculosis in our study was found in 55 patients (25%). Concurrent Pulmonary tuberculosis was found in 33(15%) patients in our series.

Constitutional symptoms were found in 32 (14.67%) patients. Fatigue, Bodyache was commonest symptom in 10 patients (4.58%) followed by loss of weight, failure to thrive (children) in 7 patients (3.21%), cough in 6 patients (2.75%), fever in 5 patients (2.29%), Night sweats in 4 patients (1.83%).Most physicians agree that Tubercular Cervical Lymphadenitis is a local manifestation of systemic infection but a striking feature of many reports in infrequent occurrence of systemIc features and specifically of pulmonary involvement. (10) Constitutional symptoms were not present in most patients in few series.

In several series, in approximately 80% (11) patients, the chest films were normal so there is continuous debate whether Tubercular Cervical Lymphadenitis is a localized disease or a part of systemic disease. (12)

Post Traingle of Neck was found to be most common involved in 98 patients (44.95%) followed by upper deep cervical lymph nodes in 66 patients(30.27%) , submandibular lymph node in 20(9.17%) patients ,supraclavicular in 18(8.25%),preauricular lymph node in 16 patients(7.33%). In a study by Pameraetal (15) regarding distribution of enlarged lymph nodes, the upper jugular, submandibular and supraclavicular groups were found involved more often and occipital group less often.

Montoux Test was positive in Tubercular Cervical Lymphadenitis in 100 patients (45.87%). Among 100 Tubercular cases (M.T. positive), 48 patients were below 15 years age. Hence Montoux Test was positive in 48 patients, out of 67 patients (71.64%) in <15 age group.

Tuberculin skin Test is the clinical screening method for evaluation of presence of TB. Positive Response doesn't necessarily indicate that disease is active but only that patient has been sufficiently exposed to tubercle bacilli for Hypersensitivity to develop. (13) A Negative Test should however rule out possibility of Tubercular cervical lymphadenitis. (14)

Commonest presentation of cervical LN was multiple matted L. Nodes in 110 patients(50.45%) followed by soft fluctuant swelling in 40 Patients(18.34%), multiple discrete nodes in 32 patients(14.67%), single firm in 20 patients (9.17%),Sinus/Ulcer in 16patients(7.33%). In 40 patients with soft fluctuant swelling, secondary infection was found in 25 patients.

In another study, of 80 patients of Tubercular Lymphadenitis, 44 cases had matted Nodes (55%), 18 cases (22.5%) discrete Nodes, remaining 18 cases (22.5%) presented with Abscess or discharging Sinus. (16)

Lymph Node size (>2cm, upto 4 cm) was found in 150 patients (68.80%), followed by LN size (>4cm) in 41 patients (18.80%), LN (<2cm) in 27 patients (12.38%).

Pus/discharge sent frorMycobacterial culture in 40 patients presenting as soft fluctuant swelling(Abscess) and remaining 16 patients presenting as Sinus/Ulcer Pus culture for mycobacterial infection was found to be positive in 38patients (67.85%)

In another study (16), 52 patients out of 80 (65%) showed positive culture for Mycobacterium Tuberculosis of human type in Lowenstein Jensen medium.Comparison was made between two groups. First group included 152 patients (70.18%) who were regularly taking ATT and second group included 65 patients (29.81%) with poor compliance/defaulters.

It was found that in Defaulter group, appearance of fresh nodes was seen in 7 patients,increase in size of nodes in 6 patients, fresh abscess development in 6 patients and sinus formation in 7 patients, as compared to 1st group(Patients on regular ATT andgood compliance)these figures were 3 patients,3 patients, 4patients ,4 patients respectively.

Over complication rate during course of ATT was seen in 26 patients (40%) in defaulter group campared to 14 patients (9.15%) in 1st group. This emphasises importance of Regular course of ATT in management of tubercular lymphadenitis. 14(9.15%) patients inspite of regular ATT developed various complications like Abscess/Sinus formation.

Fresh untreated cases of tubercular cervical lymphadenitis were managed by 2 months Isonex, Rifampicin, Pyrazinamide followed by 4 months Isonex, and Rifampiciin. Relapses/ Defaulters managed by 2 (HRZES), 5(HRE).

Randomised controlled trials have demostrated convincingly that tubercular lymphadenopathy can be treated by short course of chemotherapy. In adults the results of 9 months of INH, Rifampicin accompanied by Ethambutol for initial 2 months did not differ significantly from those receiving prolonged therapy of 18 months.(17)

Equally good results were achieved by using a regimen of RMP and INH for 6 months supplemented by PZA during initial 2 months. (18) Paradoxical expansion of lymph node may be

seen during first 2 months of treatment in up to 20% of cases, but the occurrence thereof doesn't indicate failure of chemotherapy. (19)

Excision as treatment option is particularly suitable in Non tubercular mycobacterial infections, where the therapeutic response to chemotherapy is frequently suboptimal. (20)

Incisional Biopsy should be avoided because it tends to result in sinus formation. (21)

CONCLUSION

Presentation of tuberculosis is not only as pulmonary but cervical lymphadenopathy also a common presentation. Most common cause of cervical lymphadenopathy was found to be tubercular followed by reactive lymphadenitis , metastatic deposits and Lymphomas.Cervical lymphadenopathy was commonly affect Younger Age Group(15-30years) Diagnostic accuracy of FNAC in tubercular lymphadenitis was 95.41% in our study which emphasises importance of FNAC as simple, cheap and excellent first line diagnostic step. Posterior Triangle of neck was most commonly involved. Commonest presentation of tubercular lymph nodes was multiple matted lymph nodes. In our study most of patients presented as 2-4 cms size lymph nodes. Various complications like appearance of fresh nodes, abscess, sinus etc are seen in more in defaulter/poor compliance patients as compared to patients who were regularly taking ATT. This study also emphasizes that complications can be minimized by regular anti tubercular treatment, good patient compliance & regular follow up specially for development of fresh complications.

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