



A TERTIARY CARE CENTER STUDY OF TUBERCULOUS CERVICAL LYMPHADENOPATHY AND ROLE OF SURGERY

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ABSTRACT This prospective study was conducted by selecting 50 cases presenting with symptoms and signs suggestive of tuberculous cervical lymphadenopathy. Tuberculosis continues to be a burning problem in our country by its high prevalence, in spite of the great studies made in this field of medicine. Among the extrapulmonary infections, lymph nodes are commonly involved. It remains a very frequent cause of peripheral lymphadenitis in the developing world. The distribution of disease was more in the females, low SES group and rural area and this could be due to lack of improvement in living conditions, overcrowding and poverty. The upper deep cervical group of nodes are the most commonly involved nodes and neck swelling being the most common presentation. FNAC or biopsy and histopathological examination continued to be useful before starting ATT which has got nearly 100% cure rate. Surgery is complimentary to chemotherapy.

KEYWORDS : Tuberculous cervical lymphadenitis, Caseating granuloma, Excision biopsy, Anti-tubercular treatment.

INTRODUCTION

There are about 800 lymph nodes in the body and nearly 1/3rd of them are present in neck. Cervical lymphadenopathy is a clinical manifestation of many diseases. Inflammation of the lymph nodes of the neck particularly by tuberculosis is exceedingly common¹. Lymph node tuberculosis form about 30 to 40 % of all types of extrapulmonary tuberculosis² and cervical lymph nodes are involved in 63-77% of tuberculous lymphadenopathy³. It remains a very frequent cause of peripheral lymphadenitis in the developing world. Additionally in industrialised nations there is resurgence among intravenous drug users and the immunocompromised population, especially those due to HIV. In Western countries the incidence of cervical lymphadenitis has come down to a negligible level but in India the problem is unresolved due to the high incidence of infections, improper treatment, non co-operation by the patient and poverty.

The magnitude of the problem can be gazed by the fact that 2 to 3% of the patients attending general hospitals suffer from glandular tuberculosis. Tuberculous cervical lymphadenitis more commonly involves lymph node in the anterior triangle of the neck mostly upper deep cervical group of lymph nodes⁴. In majority of cases the swelling takes an insidious onset and runs a chronic course. It remains localized for a long time unless secondary infection complicates. In approximately 80% of patients, the tuberculous process is limited to the clinically affected group of lymph nodes, but a primary focus in the lungs must always be suspected¹. Because of no other remarkable symptom their diagnosis and distinction need a high index of suspicion, and application of a spread of diagnostic modalities.

Various methods of treatment have been recommended from time to time ranging from royal touch to radiation, chemotherapeutic agents, antibiotics, etc. Surgery is also mentioned since good old days but there was controversy about it. Treatment of cervical lymphadenitis is mainly medical and is supported by surgery. The National Tuberculosis Programmes worldwide follow the World Health Organization's guidelines, directly observed treatment, short-course (DOTS) approach as intermittent chemotherapy for patients with TB lymphadenitis. In recent years because of the advancement in chemotherapy the role of surgery is diminishing however there are various surgical incidents and accidents that may be encountered when approaching neck tuberculous lymph nodes.

Social problems affect tuberculosis in general and glandular tuberculosis in particular, since the part is often exposed and leaves behind an ugly scar which will be the permanent hallmark of tuberculosis. Hence this study was conducted to study about the various clinical presentations, to correlate clinical diagnosis with the pathological findings, to study various management options, their outcome and clinical behavior of tuberculous cervical lymphadenopathy on follow up for a period of 6 months.

SUBJECTS AND METHODS:

The study consists of clinical observation and analysis of consecutive fifty cases of cervical tubercular lymphadenitis, diagnosed and treated at single institution.

INCLUSION CRITERIA:

- Patients above 12 years of age
- Clinically and pathologically proved tubercular cervical lymphadenopathy.
- Patients willing to undergo investigations and surgery (excision biopsy) if required.

EXCLUSION CRITERIA:

- Pregnant women with cervical lymphadenopathy.
- Patients in whom FNAC and/or biopsy of node could not be carried out.
- The patients with primary malignancy and patients with clinical features of suspected malignancy like obvious growth or ulcer in head and neck region

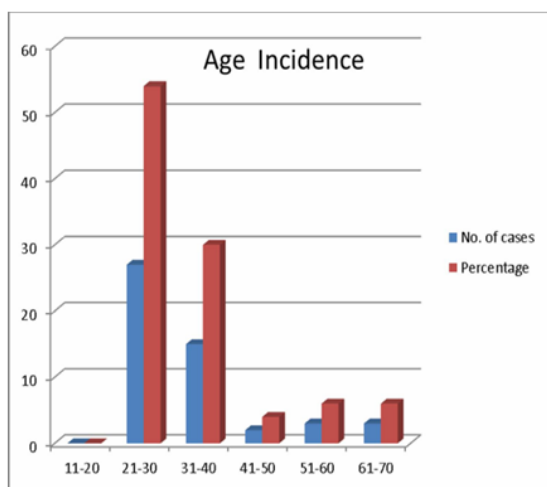
The diagnosis of the cervical tubercular lymphadenitis was made on the basis of history, clinical findings and was confirmed by either FNAC or histopathological examination. Study cases were divided into lower, middle and upper socioeconomic status based on Kuppuswamy classification. Investigations like Hb%, total count, differential count, ESR, screening chest X ray were done routinely for all patients. Radiological examination of the chest was made to find out associated tubercular lesions in the lungs. ENT opinion, contrast radiological investigation, endoscopy was carried out in relevant cases. If anaemia was found associated, haematinics were given to improve the general condition.

For the cases that underwent surgery, written informed consent was taken and prophylactic antibiotic was given 1hr prior to surgery. Post operatively, the patients were followed from the date of operation till the day of discharge. Short course antitubercular chemotherapy was started only after confirmation by cytological or histopathological report. Cases were followed up at an interval of 1-2 months from the time of commencement of anti-tubercular treatment to period of 6 months during which patients were assessed by clinical examination. The details of the cases were recorded in preformed proforma. All data were entered on master chart for analysis.

RESULTS:

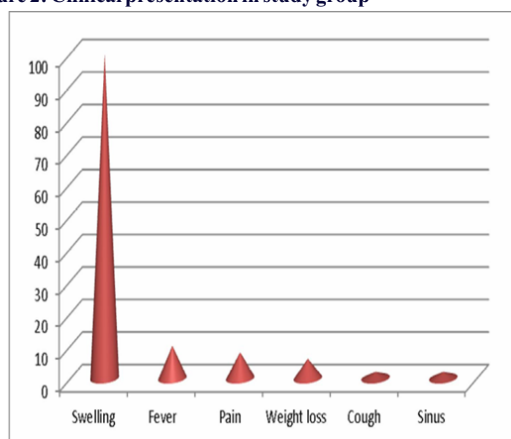
The incidence of the disease was more in the age group of 21-30 years (around 54% of cases) and least in 41-50 years (4%). No cases were reported in the age group between 11-20 years in the present study. There were 29 females & 21 males with female to male ratio 1.3:1 suggesting a higher incidence in females. Tuberculous cervical lymphadenitis was more common in people living in rural areas and belongs to lower income group, constituting 98% of study cases.

Figure 1: Age distribution in study group



All 50 cases (100%) were presented with swelling in the neck. 5 presented with associated fever (10%), 4 with pain over swelling (8%), 3 with weight loss (6%), 1 with cough (2%) and 1 with sinus (2%). 32 cases (64%) presented with duration less than 3 months. Lymph nodes on left side were more commonly involved (78%) than right side (18%). The upper deep cervical group of lymph nodes was commonly affected (64%). More than one nodal group was involved in 4%. Submandibular group was involved least, constituting 2%. 80% of the lymph nodes were firm, discrete in 84%, with matting and fixity noted in 16% and 2% respectively.

Figure 2: Clinical presentation in study group



30 patients had raised ESR (60%, >30mm at the end of 1 hr), all patients were confirmed by FNAC/ Excision biopsy (100%). Three patients had features of pulmonary tuberculosis on chest X-ray and sputum for AFB positive in these three patients.

All the 50 studied cases were put on short course chemotherapy after confirmation either by FNAC or histopathological diagnosis of excised lymph node. 33 cases were confirmed by FNAC alone (66%) who showed caseating granuloma. 6 cases (12%) had non caseating granuloma in FNAC and 10 cases (20%) were inconclusive. The 10 cases were subjected to excision biopsy which showed caseating granuloma. One presented with cold abscess and was managed by non-dependant aspiration with excision biopsy of lymph node mass. All cases were started on ATT only after confirmation by FNAC or excision biopsy.

Table 1: Lymphnode Character

Lymphnode character	No of cases	Percentage
Firm consistency	40	80
Soft consistency	10	20
Discrete	42	84
Matting	8	16
Fixity	1	2
Sinus	1	2

Table 2: Results of FNAC and Excision Biopsy

Investigation	Caseating granuloma		Noncaseating granuloma		Inconclusive	
	No. of cases	Percentage	No. of cases	Percentage	No. of cases	Percentage
FNAC	33	66	6	12	10	20
Excision biopsy	11	22	-	-	-	-

The regression in size of swelling and improvement in general condition of patients were noticed in 75% of cases within 4 weeks after starting treatment. One patient developed sinus following excision biopsy who later underwent excision of sinus. Rest of the cases was symptom free at the completion of treatment i.e. 6 months.

DISCUSSION:

The majority of cases were in the age group between 21-30 years and female to male ratio was 1.3:1 for the present series. In this age group, the lymphatic system plays an important role and the lymph nodes act as powerful second line of defence in holding the infection. This preponderance in female over male is explained in relation to relative under nutrition, restricted outdoor life, early and repeated pregnancy etc. in females. The tuberculous cervical lymphadenitis is more common in low SES people (98%) as compared to 60% in Kumar Biswas study⁵. The main reason for more preponderance in low SES is due to overcrowding, poor ventilation, unhygienic living conditions, poverty and malnutrition.

The common complaint with which the patients presented was neck swelling, seen in all patients. 10% came with fever, 8% with pain in swelling and 6% with weight loss. This study results were compared to Jha BC et al study as results were almost similar i.e. 94.6% presented with swelling, 7.3% with pain and 10.7% with fever⁶. Cough is not a specific feature of tuberculous adenitis and is probably due to associated recurrent upper respiratory infection. Pain is due to stretching of capsule or stretching of deep fascia of the neck by the enlarging lymph nodes. Pain is more if superadded secondary infection is present. General symptoms like fever, loss of weight, etc are not specific for tubercular adenitis.

The upper deep cervical group of nodes was the most commonly involved nodes (64%) which were more when compared to Kumar Biswas study (43.3%)⁵. The probable explanation for this was patients have presented very early in disease process in the present series as evidenced by 64% of cases presenting with less than 3 months duration. The submandibular nodes were least involved in our study (2%). Posterior triangle nodes were most commonly affected (42%) followed by UDC (16%) in Maharjan M et al study⁷. The upper deep cervical group of lymph nodes receive afferents from the nose, oral cavity, pharynx, tonsils and hence the bacillus filtered there produces lesions in the draining nodes. The other portal of entry of tubercle bacillus is through adenoids, which drain directly into lower deep cervical nodes explaining the high incidence (20%). More than one group of nodes was involved in the present series in 4%.

The present study showed discrete lymph nodes in 84% cases, matting in 16%, consistency being firm in 80% and fixity and sinus formation in 2% each. The results were higher in ICMR study as the number of cases studied was more when compared to present study⁸. In Salman M et al study, 66% had firm nodes, 28% were solitary, 72% were matted and 6% had sinus⁹. Three patients had associated pulmonary tuberculosis constituting 6% as compared to 16% in Jha BC et al study⁶ and 14% in Maharjan M et al⁷ study. Erythrocyte sedimentation rate was raised in 60% cases and Chest X-ray showed features of pulmonary tuberculosis in three cases (6%). This figure is compatible with the idea that tubercular adenitis render a patient less liable to develop pulmonary tuberculous lesions.

Fine needle aspiration cytology or excision biopsy and histopathological examination was done in all cases and found positive in all cases (combined) in the present series which is similar to that of Jha BC et al⁶ study and Maharjan M et al⁷ study. 11 cases (22%) underwent excision biopsy of the affected lymph nodes. 39 cases (78%) were diagnosed by FNAC alone. FNAC revealed caseating and non caseating granuloma in 66% and 12% cases respectively as compared to 69% and 31% respectively in Muhammed Mudassar series¹⁰. These results were similar to that of Salman M et al study where excision biopsy revealed caseating granuloma in 18% cases⁹.

After confirmation, they were started on anti tubercular treatment for a period of 6 months as per RNTCP guidelines. One patient underwent nondependent aspiration with excision biopsy along with ATT (2%). Cure rate was 100%. This result was similar to that of B C Jha et al study⁶. In the recent years, with the advancement in chemotherapy, the role of surgery is limited to drainage of cold abscess, excision biopsy of affected lymph nodes and excision of residual lymph node mass or scars.

CONCLUSION

The aim of decreasing incidence of cervical lymphadenopathy requires handling the problem through various stages, like improving the standard of living, attention to diet, sanitation, housing, preventive measures and treatment with specific anti- tubercular drugs. Care should be taken to identify patients who need ATT as multiple differential diagnoses exist for cervical lymphadenopathy. Treatment of cervical lymphadenopathy is mainly medical which can cure more than 95% of cases. Surgery is a complimentary to chemotherapy but not a replacement.

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