



Etiopathological Evaluation of Cervical Lymphadenopathy

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ABSTRACT

Objectives: To study the clinical presentation, etiology and management of chronic cervical lymphadenopathy.

Methods: 100 patients with chronic cervical lymphadenopathy underwent haematological and radiological investigations, fine needle aspiration cytology (FNAC) and lymph node biopsy. Further tests were conducted based on the histopathological diagnosis and appropriate treatment administered.

Results: Tuberculosis showed maximum incidence (68%), followed by metastasis (14%). Incidence of tuberculosis was highest between 11-30 years; metastasis between 41-50years. Accuracy of FNAC was 88% in the diagnosis of tuberculosis, 100% in secondary metastasis but was inconclusive in 26%. All patients received appropriate treatment. No mortality was reported at the end of study.

Conclusion: Tuberculosis is the most common cause of cervical lymphadenitis, followed by metastasis. FNAC was found to be a reliable, cheap method of diagnosis with good patient compliance, without significant morbidity.

KEYWORDS : Cervical lymphadenopathy, tuberculosis, lymphoma, metastatic cancer, fine needle aspiration cytology

INTRODUCTION

Lymph nodes which are interposed throughout the course of collecting lymphatic channels vary from a millimetre to a centimetre or more in size. They act as filtering mechanism by producing specialized immune system cells called lymphocytes that detect and combat pathogens in the body.¹ There are about 800 lymph nodes in the body of which 300 are in the neck.

Chronic cervical lymphadenopathy is defined as lymph node measuring more than 1cm in diameter and that does not resolve by 6 weeks.² It is classified as "generalized" if lymph nodes are enlarged in two or more noncontiguous areas or "localized" if only one area is involved. This condition has multiple etiologies, the most common of which are infection, neoplasia and autoimmune disease. This study was therefore undertaken to assess the etiology, clinical presentation and management of chronic cervical lymphadenopathy.

MATERIALS AND METHODS

A prospective observational study was conducted from May 2012 to May 2014 at the Department of ENT, Kempegowda Institute of Medical Sciences, Bangalore.

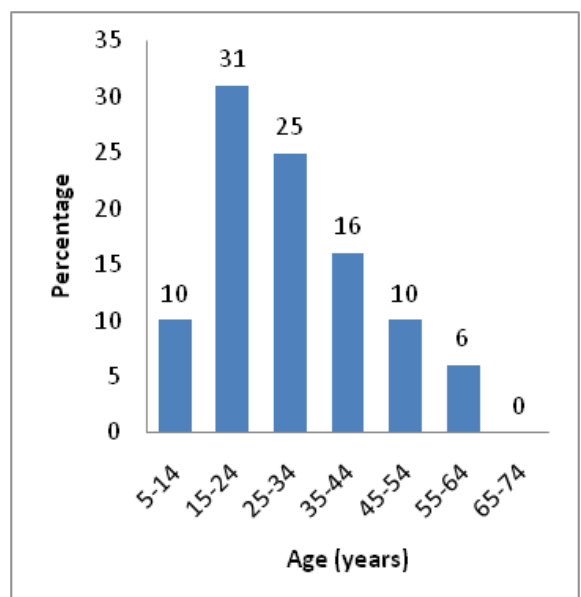
100 patients aged between 5years and 75years, presenting with enlarged cervical lymph nodes (more than 1cm diameter) for more than 6weeks duration were randomly selected.

Detailed relevant history was taken and complete physical examination was carried out, with emphasis on the lymph nodes. An attempt was made to locate the site of the primary tumour in cases of lymph nodes suspected as secondaries in neck. After making a clinical diagnosis, further investigations were carried out to confirm the diagnosis. Routine haematological and radiological investigations were done. All patients underwent FNAC and lymph node biopsy. Further tests were conducted based on the histopathological reports. Contrast radiological investigations and pan-endoscopy were carried out in relevant cases. Appropriate treatment was initiated. Medical treatment was employed for conditions like tubercular adenitis, infective lymph node swellings. All patients diagnosed with tuberculosis were given anti tubercular treatment(ATT) according to the existing RNTCP guidelines. Pa-

tients diagnosed with nonspecific lymphadenitis with the clinical diagnosis of chronic tonsillitis, underwent tonsillectomy. For radiotherapy, chemotherapy and oncosurgical intervention, patients were referred to higher centres. All patients were followed up for a period of 1 year.

RESULTS

100 patients (62 females and 38 males) with chronic cervical lymphadenopathy were included. The age group with the highest incidence was 15-24 years (31%), followed by 25-34 years (25%) (Graph 1).



Graph 1- Age distribution of cervical lymphadenopathy Patients presented with neck swelling (100%), pain (48%) and fever (20%) (Fig.1).

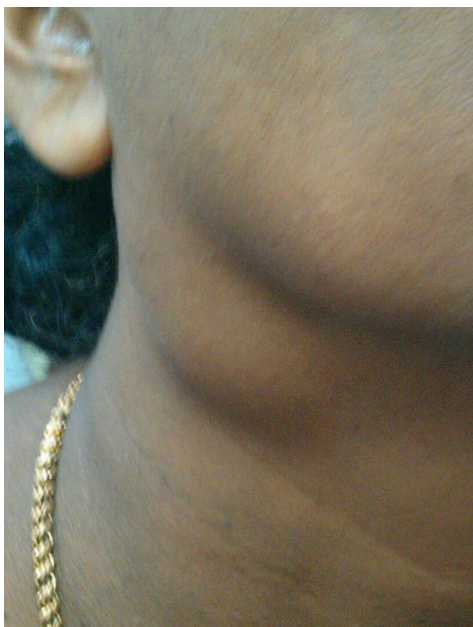
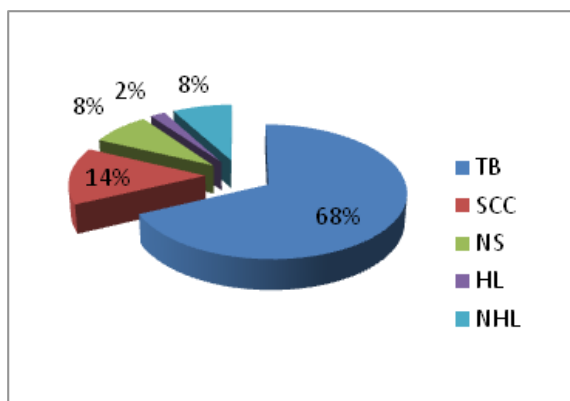


Fig.1 - Cervical lymphadenopathy

Among the subgroups of cervical nodes, the jugulo-digastric group was involved in 36% of cases, followed by jugulo-omohyoid, submandibular and supraclavicular nodes. On examination, 48% were single nodes, 84% of the nodes were firm in consistency and 4% were hard; 32% were matted and 12% showed fixity.

Most common etiological diagnosis was tuberculosis(TB) (68%), followed by secondaries(SCC) (14%), nonspecific lymphadenitis(NS) (8%), Non Hodgkin's lymphoma(NHL) (8%) and Hodgkins lymphoma(HL) (2%) (Graph 2). Male:female ratio of those affected by TB was 1:3.8. Higher incidence of secondaries was seen among males. HL was seen only in males. In NHL the male:female ratio was 3:1.



Graph 2- Overall incidence of etiological factors for cervical lymphadenopathy

FNAC showed TB in 60 cases, secondaries in 14 cases, NHL in 4 cases and HL in 1 case, which concurred with the excision biopsy reports. 21 cases showed non specific inflammation on FNAC, but on excision biopsy, revealed that 8 of these cases had TB, 4 had Non Hodgkin's lymphoma and 1 had Hodgkin's lymphoma. Of the 8 cases diagnosed with non specific reactive lymphadenitis following excision biopsy also, 4 were diagnosed clinically with chronic tonsillitis and underwent tonsillectomy, while the others responded well to medical treatment alone. Out of total 68 patients detected with tuberculosis, 4 had cold abscess. All patients showed improvement in symptoms and general health following treatment, and no cases of relapse were reported. In 14 patients with secondaries, 5 patients had metastasis with unknown primary, 4 had bronchogenic carcinoma; 2 cases had primary in the base of

tongue, 2 in the thyroid and 1 in the nasopharynx. All cases underwent treatment in a higher centre and no relapse or mortality was seen.

Incidentally, during routine investigation, HIV was found in 8 cases with tubercular cervical lymphadenopathy.

DISCUSSION

Cervical lymphadenopathy has been documented world wide as the most common type of peripheral lymphadenopathy in both children and adults^{3,4,5}. The majority of cases in our study were aged between 11-30 years. This observation was also made in studies conducted by the Research committee of "The Tuberculosis Association of India", which can be attributed to the lymphatic system playing an important role in this age group as lymph nodes act as a powerful second line of defence against infection⁶.

Tuberculosis showed a female predominance in our study, as was observed in studies done by the Research committee of "The Tuberculosis Association of India"⁶ and Nanda B.P et al⁷.

The incidence of each etiological diagnosis in our study concurred with the findings in a study by Rathod GB et al⁸ in 2012 which showed that tubercular lymphadenitis was the most common pathology of lymph node lesions accounting for 42.12% followed by metastatic carcinoma in 21.05% and reactive/non-specific lymphadenitis in 19.30% of 200 cases. Another study on histopathological findings in 242 lymph node biopsies conducted over 10 years at the Jos University Teaching hospital also showed that tuberculosis was the predominant lesion (33.05%), followed closely by NHL(31.4%)⁹. In Saudi Arabia, El Hag et al conducted a similar study in 225 patients over a period of 5 years, which revealed reactive/non-specific lymphadenitis in 33%, tubercular lymphadenitis in 21% and malignancy in 13% of cases¹⁰.

About 80% of the population in many Asian and African countries test positive in tuberculin tests, while only 5-10% of the US population test positive. Hopes of totally controlling the disease has been dramatically dampened because of a number of factors including the difficulty of developing an effective vaccine, expensive and time consuming diagnostic process, necessity of many months of treatment, increase in HIV associated tuberculosis and the emergence of drug-resistance cases in the 1980s¹¹. In those with HIV, tuberculosis occurs in more than 50% of cases¹². In our study, HIV was incidentally detected in our study in 8 cases with tubercular lymphadenopathy.

It is well known that the age specific incidence for Hodgkin's disease is bimodal, one peak occurring between 15-35years and the other above 55years. Our study diagnosed 2 cases of Hodgkin's lymphoma, aged about 30 and 50years.

In our study the incidence of Non-Hodgkins lymphoma was highest between 21-40 years and the ratio of males to females was 3:1. Studies have shown that NHL of the upper aero-digestive tract is a disease of the middle aged and elderly and shows a male preponderance in general¹³.

FNAC results in our study were similar to those seen in other studies done by Fulciniti F et al¹⁴, Carrillo JF et al¹⁵, Saleh HA et al¹⁶, Narang RK¹⁷ and Rathod GB⁸, in which accuracy was reported with FNAC procedure, without complications.

CONCLUSION

The most common etiology for cervical lymphadenopathy is tuberculosis, followed by metastasis. Individuals in the 2nd and 3rd decades are most commonly affected. A good response to treatment can be expected, without any significant complications. Fine needle aspiration cytology is a reliable, safe and cost effective method of diagnosis, with good patient compliance.

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