



CLINICO PATHOLOGICAL CORRELATION OF SIGNIFICANT CERVICAL LYMPHADENOPATHY IN PEDIATRIC AGE GROUP (1-12YEARS)

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ABSTRACT

This study intends to find out systematically the various pathological condition presenting with lymphnode enlargement in neck and various modes of clinical presentation to arrive an etiology. In this study, 75 children between the age group 1 year to 12 years with significant cervical lymphadenopathy attending the Department of Paediatrics, RMMCH, Chidambaram were studied. In the present study, majority are in age group 4 – 8 years (47%) followed by 8 – 12 years (26.6%). Common etiologies in patients with lymphadenopathy were tonsillitis or pharyngitis in 34.6%, tuberculosis 13.3 %, ear infections 8%, scalp infections 18.6%, oro dental infections 8% and malignancy 3%. Tuberculosis remains the leading cause among specific systemic diseases producing chronic cervical lymphadenopathy. Duration of lymphnode enlargement, site and distribution, character of the node and presence of organomegaly, contact history and Mantoux test were taken into account. Sensitivity of FNAC in diagnosing TB cases was 68.75%. Out of 16 cases with suspected TB lymphadenopathy, Fine Needle Aspiration and cytology diagnosed 10 cases with clinical correlation, ESR was increased in 27 cases and chest X ray suggestive in 13 cases.

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INTRODUCTION

Lymphnode diseases are always complex because focus of large number of diseases reaches via lymph only. Because of inherent complexity of immune system, lymph node enlargement is related to abnormalities in the organ associated with the disease. Neck nodes constitute 1/3rd of the total nodes of the body. They form the major composition in lymphatic system which are clustered in small groups, some in chains at specific location draining respective anatomic regions. Analysis of lymph node enlargement is not an easy task. Improper diagnosis and treatment may convert a potentially curable disease into an incurable one. This study intends to find out systematically the various pathological conditions presenting with enlarged lymphnodes in the neck and various mode of presentation. A study of the role of FNAC in diagnosing these conditions after clinical and laboratory investigations had been undertaken within the study. Various trends observed in this study are correlated with recent literature and conclusions are made.

MATERIALS AND METHODS

The study was carried out in the Department of Paediatrics, RMMCH, Chidambaram from October 2014 – September 2016 in children between age group 1 – 12 years with significant cervical lymphadenopathy (node size more than 1 cm) was taken. Information taken including age, sex, duration,

associated symptoms like fever, cough, weight loss, loss of appetite, ear discharge and also information taken regarding site, size, consistency, mobility and significant findings in systemic examination were recorded. Final diagnosis was made after complete hemogram, ESR, chest xray, Mantoux, Gram stain, FNAC, biopsy and serology accordingly.

RESULTS

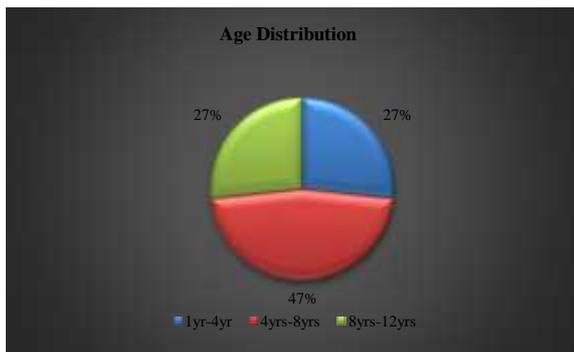
Total of 75 cases were studied from October 2014 to September 2016. Out of these 75 patients, 45 were from out patients (65%) and rest of 30cases (35%) were from inpatients. Majority of them are in age group 4 – 8 years (47%) followed by 1- 4 yrs(27%) and then 8- 12 years (26%).

Age	Quantity	Percentage %
1yr-4yr	20	27%
4yrs-8yrs	35	47%
8yrs-12yrs	20	27%

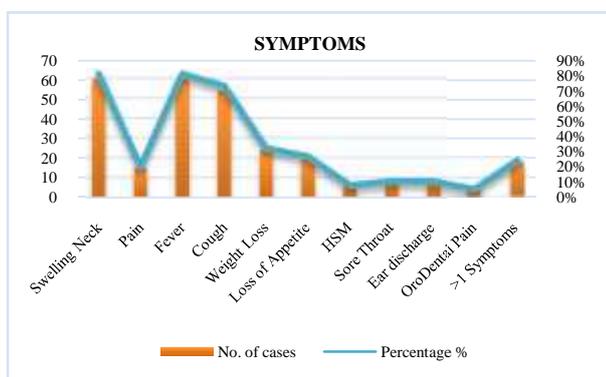
Incidence was observed to be common in males (53.33%) than in females (46.67%) in this study.

Of all the symptoms, neck swelling (80%) was the main symptom in all cases. Associated symptoms like fever and cough were 75% and 72% respectively. Among node involvement, anterior cervical nodes (41.3%) followed by

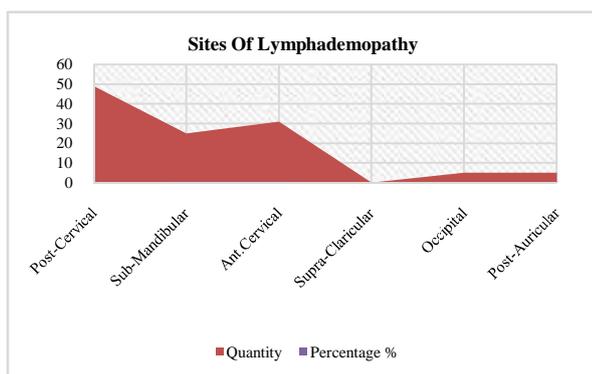
posterior cervical nodes (35.33%), submandibular nodes (12%) and occipital nodes (6.66%) were noted.



Symptoms	No. of cases	Percentage %
Swelling Neck	60	80%
Pain	15	20%
Fever	60	80%
Cough	54	72%
Weight Loss	24	32%
Loss of Appetite	20	26.60%
HSM	6	8%
Sore Throat	8	10.60%
Ear discharge	8	11%
OroDental Pain	4	5.30%
>1 Symptoms	18	24%



Sites	Quantity	Percentage %
Post-Cervical	49	12%
Sub-Mandibular	25	35%
Ant.Cervical	31	41%
Supra-Claricular	0	0%
Occipital	5	6.66%
Post-Auricular	5	6.66%



In 53.33% of cases, node size was below 2 cm, 46.67% cases had node of 2 – 4 cm and nil cases were more than 4 cm.

In 78.67% cases, nodes were discrete and mobile, and matted in 21.33% cases. Hepatosplenomegaly was seen in 8% cases. Blood counts were done in all cases, where 37.33% showed leukocytosis, 21.33% had leucopenia, 24% had lymphocytosis and 17.33% had anemia. FNAC was done in 60 cases. Final diagnosis was made after clinical correlation, FNAC report, Mantoux test, contact history and relevant investigations. 74.66% cases were diagnosed as reactive lymphadenitis, 13.33% cases had granulomatous adenitis correlating tuberculosis and 6.66% cases had suppurative adenitis.

DISCUSSION

In this study to arrive at a definitive diagnosis, FNAC remains basic tool for evaluating children with cervical lymphadenopathy. But sensitivity of detecting granulomatous and non granulomatous lesions although similar, but specificity in detecting TB is based mainly on correlation with clinical and laboratory investigations. In this study major cytological picture was reactive hyperplasia (74.66%) followed by granulomatous adenitis (13.33%), suppurative adenitis (6.66%), lymphoma (1.33%) and inadequate aspirate of 3 cases.

Mishra SD *et al* observed reactive hyperplasia of 71.8%, granulomatous adenitis (17.5%), suppurative adenitis (6.6%) and malignancy in 3.6% in his study of 18 cases. Knight PJ *et al* in their study of 175 cases found reactive hyperplasia in 57.5%, granulomatous adenitis (28.2%) and malignancy in 17.9%. Various studies have registered the sensitivity of FNAC in diagnosing TB as 16.5%, 77%, 80.7%, 84.4%, and 95%.

Due to ongoing antigenic stimulus, the lymphnode growth may exceed the normal limits. Knight PJ *et al* emphasized relating age to lymphadenopathy, that age is not important in predicting the incidence of significant lymphadenopathy.

In this study, male incidence was 53.33% and female incidence 46.67%. Moore *et al* found male preponderance with male to female ratio of 3 : 1. Sheikh MP *et al* observed higher incidence in males as compared to females.

In this study majority of symptoms were neck swelling (80%), followed by fever (75%) and cough (72%). Sheikh *et al* observed history of neck swelling in 100% of cases and fever in 86.5% of cases. In the present study, upper anterior cervical group was commonly involved (41.33%) followed by posterior cervical nodes (35.33%). Knight PJ *et al* observed in their study of 239 children, 47% of them had involvement of upper anterior cervical group of nodes.

In this study systemic examination revealed hepatosplenomegaly in 8% of cases. Barton LL *et al* observed 7% of hepatosplenomegaly, out of 74 cases with cervical lymphadenopathy.

CONCLUSION

A detailed clinical examination and history is the initial approach to these children presenting with cervical lymphadenopathy. Occurrence of cervical lymphadenopathy is a common problem in children. Major etiology will be infections in draining areas like throat, ear, scalp which will be recorded in clinical examination. Treatment of appropriate

antibiotics is sufficient for these cases. But for children presenting with serious systemic illness like Tuberculosis, HIV or Brucellosis, there is need in detail evaluation with investigations like Chest Xray, Mantoux test, FNAC and serology.

Although FNAC is a simple diagnostic tool with minimum complications when compared to other tests, its specificity remains high when it is correlated with other investigations in detecting granulomatous lesions especially tuberculosis.

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