



A STUDY ON CLINICOPATHOLOGICAL STUDY OF SIGNIFICANT CERVICAL LYMPHADENOPATHY IN CHILDREN AGED 1 -12 YEARS

Paediatrics

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ABSTRACT

INTRODUCTION: Lymphadenopathy is a common problem in children and evaluation of child with lymphadenopathy is a common clinical scenario for the paediatrician, lymphadenopathy in children may be due to systemic infections mostly systemic viral infections. Objective of this study is clinicopathological profile of significant cervical lymphadenopathy among the children attended to department of paediatrics ASARAM hospital, Eluru, AP.

MATERIAL AND METHODS: This was a prospective study done on 50 children with significant lymphadenopathy attended to Dept of Paediatrics, ASRAM, Eluru during the period of August 2017 to August 2019.

RESULTS: 74.4% of significant lymphadenopathy is due to Reactive hyperplasia followed by 15% due to Tuberculosis, and 6.9% due to suppurative conditions.

CONCLUSIONS: Non diagnostic hyperplasia due to Reactive lymphadenitis commonest cause of significant cervical lymphadenopathy in children. infections are commonest etiology for significant lymphadenopathy.

KEYWORDS

Lymphadenopathy, Fnc

INTRODUCTION:

Lymph nodes are the filters along the lymphatic system. Their job is to filter out and trap bacteria, viruses, cancer cells and other unwanted substances to make sure that they are safely eliminated from the body. Lymphnode enlargement is a common problem in children and evaluation of a child with lymphadenopathy is a common clinical scenario for the pediatricians. Palpable nodes in the cervical region are found in about 80-90% of children. Lymph nodes in children may be palpated as early as in the neonatal period. Lymphadenopathy is one of the most common clinical manifestations of many diseases. It is defined as an abnormality in the size and character of the lymph nodes caused by the invasion or propagation of either inflammatory cells or neoplastic cells into the lymph node.¹ Cervical lymphadenopathy is defined as any cervical lymph nodal tissue more than 1cm in diameter. It may affect any age group; however, the possible cause for such adenopathy varies in each age group.² Palpable supraclavicular nodes are always considered abnormal. Majority of these are due to benign self-limited disease process because self limited viral or bacterial infections are the most common causes.³ The differential diagnosis of lymphadenopathy is broad. A thorough medical history and meticulous clinical examination is important in narrowing this differential. Systemic infections are the most common causes, majority being systemic viral infections. Regional lymphadenopathy is defined as the enlargement of lymph nodes within contiguous anatomic regions. It occurs most often because of the presence of an infectious or inflammatory process in the region drained by the lymph node(s). Knowledge of the pattern of lymphatic drainage aids in determining the etiology. Regional adenopathy is most common in cervical nodes in children and is usually related to infectious etiologies. In malignancies like Lymphoma and Leukemia, cervical nodes may be enlarged and may be the initial presentation. The dilemma to approach a child with lymphadenopathy, its evaluation and management, considering various differential diagnoses, stimulated us to take up this study.⁴ Study aims and objectives were to see the clinical and pathological correlation and to assess the etiological factors in pediatric patients with significant cervical lymphadenopathy.

MATERIAL AND METHODS:

The study was conducted in Dept of Paediatrics, ASRAM, Eluru. Children with significant cervical lymphadenopathy attending Pediatric OPD and admitted in Pediatric Department during the time period of August 2017 to August 2019 were included in the study. Methodology For all patients in study group blood examination for Haemoglobin level, total and differential count, and Erythrocyte sedimentation rate were done by haematological techniques. Mantoux test was done in all patients as a part of routine work up. Fine needle aspiration cytology (FNAC) was done for all patients in study group after selecting most prominent node in patients with source of infection

swab was taken for culture and sensitivity. In patients with suspected systemic infections or malignancies relevant tests were done.

INCLUSION CRITERIA :

1. Patients between the age group of 1 month to 12 years Patients with cervical lymphadenopathy with Lymph node size of > 1cm in cervical and axillary region > 1.5 cm in inguinal region > 0.5 cm in other peripheral region Lymph nodes which were hard, rubbery or matted.
2. Lymph nodes with discharging sinus.

RESULTS:

A total of eighty six patients were studied between of Augst 2017 to August 2019. Out of 50 cases studied 13 (26%) were in-patients admitted in the pediatric ward and 37 (74%) were out patients, attending pediatric outpatient department, ASRAM, Eluru. Significant cervical lymphadenopathy is common in 4- 8 years group (44%), followed by 8 – 12 years group (36%).

TABLE 1. DISTRIBUTION ACCORDING TO AGE GROUP

Age	No. of cases	Percentage
1mo-4yr	10	20
4yr- 8yr	22	44
8yr-12yr	18	36
Total	50	100

Neck swelling was the presenting symptom in 45 children (90%). Fever and cough were the presenting symptoms in 88% and 52% of children respectively. History of failure to gain weight and loss of appetite were seen in 32% of children. History of sore throat was present in 18% of children. Swelling was painless in majority of cases (92.9%) and pain in swelling was seen in 7. 1%. In 35 (70%) of children there were more than one presenting symptoms. History of Ear discharge and history of Orodental pain was present in 8% of children each. History of contact with a case of tuberculosis was present in 5 children.

TABLE 2. PRESENTING COMPLAINTS

Neck swelling	45	90
Fever	44	88
Cough	26	52
Weight loss/Failure to gain weight	16	32
Loss of appetite	28	36
Sore throat	9	18
Ear discharge	4	8
Orodental pain	4	8

More than one symptom	35	70
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Anterior cervical is most commonly affected group of lymphnodes (44.1%) followed by posterior cervical (32.5%), FNAC was done in all 50 cases. The material was adequate for reporting in 96.3% of cases and in other 3.4% cases it was inadequate. In majority of the cases (74.4%) cytology showed reactive hyperplasia. Cytological features of tuberculosis were seen in 13 cases (15%) - caseous necrosis in 9 and granulomatous changes in 4 cases. In 6 cases purulent material was aspirated and was reported as suppurative lymphadenitis.

TABLE 3. FINE NEEDLE ASPIRATION CYTOLOGY

Cytology	No. of cases	Percentage
Reactive hyperplasia	64	74.4
Tuberculosis	13	15
Suppurative	6	6.9
Inadequate material	3	3.4
Total	86	100

DISCUSSION:

In this study, an attempt was made to study the etiology of children with cervical lymphadenopathy after correlating with history, clinical findings and relevant laboratory diagnosis. In present study, majority of the children presenting in age group of 4-8 years, probably due to increase in exposure to surrounding environment.⁵ Similar results observed in study done by Reddy. MP et al⁶ and B. Deeva Kumar et al⁷ noted majority in 4-8 years group. But Knight et al⁸ emphasised in one of the largest studies relating age to lymphadenopathy that age is not important in predicting the incidence of significant lymphadenopathy. In the present study, there is male preponderance, but there is no such predilection of sex in study by Mishra S D et al. In the present study, predominant symptom was swelling in neck followed by fever and cough which is correlated with observation of Reddy. MP et al. Knight et al and Reddy et al observed in their study of pediatric cervical lymphadenopathy, the predominant site being upper anterior cervical lymph nodes. However in our study, the predominant sites included both anterior and posterior lymph nodes.^{5,6} In the present study children with history of contact with adults with tuberculosis was present in 3.12% cases. However Reddy. MP et al noted the same in 90.90%. Knight et al and Reddy. MP et al⁶⁻⁸ noted firm lymphnodes in 96% and 94% cases respectively and our finding (81.25%) is corroborated with the above workers. BCG scar was noted in 78.12% cases in present study which is well correlated with Reddy. MP et al who also noted it in 78%. This may be attributable to awareness about the immunization. In the present study, the commonest cytopathological finding was reactive lymphadenitis in 74.4% similar results observed in study done by Khajuria et al⁹ followed by granulomatous and suppurative lymphadenitis in 15% and 6.9% respectively. Tubercular lymphadenitis¹⁰ which was observed in the present study correlated positively with increasing risk factors like unimmunised status, positive Mantoux test, positive history of contact and undernourishment. Other bacterial pathogens like Staphylococci, Streptococci and Citrobacter which are isolated from tonsillopharyngitis and otitis media are involved in causing cervical lymphadenopathy. This may be attributed to poor hygienic conditions, over crowding and poor socioeconomic status. In the present study etiology could not be established in 15.7% of the cases in spite of various investigations and this finding was well correlated with Reddy. MP et al who was unable to diagnose in 44% of the cases. Hence, further studies and longer follow up involving detection of antigen and antibody against various viruses, parasites and investigations for rare causes of lymphadenopathy may decrease the number of undiagnosed cases.

CONCLUSION:

The following conclusions can be drawn from the present study: Non diagnostic hyperplasia due to Reactive lymphadenitis commonest cause of significant cervical lymphadenopathy in pediatric age group. Infections are commonest etiology diagnosed after relevant investigations. Reactive lymphadenitis is the commonest cause of lymphadenopathy in children followed by tuberculosis. In this study male predominance noted with male to female ratio of 2.3:1. FNAC safe and reliable less time consumable outpatient procedure used as an initial diagnostic tool.

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