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Dr. Rakesh Yadav
Department of Paediatrics,
Jawaharlal Nehru Medical
College, Aligarh, Uttar
Pradesh, India

Evaluation of cases of cervical lymphadenopathy in pediatrics: A clinical study

Dr. Rakesh Yadav

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Abstract

Background: Cervical lymphadenopathy (CLA) is a frequent problem in clinical practice in pediatrics age group. The present study was conducted to evaluate cases of cervical lymphadenopathy in children.

Materials & Methods: The present study was conducted on 126 patients of cervical lymphadenopathy of both genders. A careful clinical examination followed by complete blood count, Mantoux test, chest X-ray and fine needle aspiration cytology (FNAC) was performed.

Results: There were 54 boys and 72 girls. Common site was sub mental seen in 30, anterior cervical in 25, posterior cervical in 22, submandibular in 24, occipital in 16 and juglo-diagastric in 9. The difference was significant ($P < 0.05$). Cases were of reactive hyperplasia in 104, TB lymphadenitis in 4, lymph node abscess in 12 and Hodgkin's lymphoma in 6. The difference was significant ($P < 0.05$).

Conclusion: Authors suggested that common site was sub mental, anterior cervical, posterior cervical, submandibular in 24, occipital and juglo-diagastric.

Keywords: cervical lymphadenopathy, occipital, sub-mental

Introduction

Lymphadenopathy (LAP) is the term to describe the conditions in which lymph nodes become abnormal in size, consistency, and number. If the mass originates from the lymph nodes, the first step should be to establish whether the lymph node itself is enlarged: this is the case above a diameter of >1 cm (in the angle of the mandible >1.5 cm) and is defined as lymphadenopathy. A distinction is made between an acute (<2 weeks), sub-acute (2–6 weeks) and chronic (>6 weeks) course of the lymphadenopathy ^[1].

Cervical lymphadenopathy (CLA) is a frequent problem in clinical practice in Paediatrics age group. Common benign causes include bacterial infection, adenoviral illness, and tuberculosis whereas the malignancies causing generalized lymphadenopathy include leukemia, lymphoma or metastasis ^[2]. Lymphadenitis refers to lymphadenopathies that are due to inflammatory conditions in which there is nodal enlargement, pain, skin changes, fever, oedema and/or pus formation ^[2].

It is important to take a careful history to consider a variety of disorders, which may be a clue to the underlying disorder. It might be a usual self-limited infection in younger adults or a malignancy in older patients. Based on different geographical areas, the etiology varies. For example, tuberculosis (TB) is the most common cause of cervical LAP in endemic areas ^[3]. The present study was conducted to evaluate cases of cervical lymphadenopathy in children.

Materials & Methods

The present study was conducted in the department of Pediatrics. It comprised of 126 patients of cervical lymphadenopathy of both genders. Parents were informed regarding the study. Ethical approval was obtained from institute prior to the study.

General information such as name, age, gender etc. was recorded. A careful clinical examination followed by complete blood count, Montoux test, chest X-ray and fine needle aspiration cytology (FNAC) was performed. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

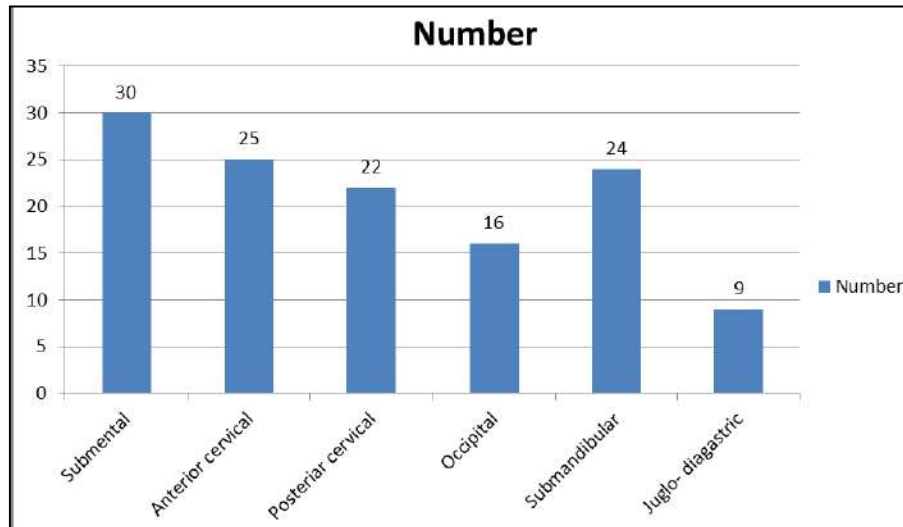
Corresponding Author:
Dr. Rakesh Yadav
Department of Paediatrics,
Jawaharlal Nehru Medical
College, Aligarh, Uttar
Pradesh, India

Results

Table 1: Distribution of patients

Total- 126		
Gender	Boys	Girls
Number	54	72

Table I shows that there were 54 boys and 72 girls.



Graph I: Site of lymphadenopathy

Graph I shows that common site was sub mental seen in 30, anterior cervical in 25, posterior cervical in 22, submandibular in 24, occipital in 16 and juglo-diagastric in 9. The difference was significant ($P < 0.05$).

Table 2: Diagnosis of cases

Diagnosis	Number	P value
Reactive hyperplasia	104	0.02
TB lymphadenitis	4	
Lymph node abscess	12	
Hodgkin’s lymphoma	6	

Table II shows that cases were of reactive hyperplasia in 104, TB lymphadenitis in 4, lymph node abscess in 12 and Hodgkin’s lymphoma in 6. The difference was significant ($P < 0.05$).

Discussion

Several aspects in the diagnosis of LAP should be considered. In most cases, further investigation is not required as the cause is obvious on primary evaluation (such as infection). In unexplained conditions, laboratory tests, imaging studies, and tissue biopsy are recommended [4]. Imaging can identify the size and distribution of the node more accurately than can physical examination. Tissue diagnosis by fine needle aspiration biopsy or excisional biopsy is the gold standard evaluation for LAP. If the anamnesis and clinical examination prove inconclusive, or if confirmation of a suspected diagnosis is required, further diagnostic means are available, including serological tests, sonography as the main imaging technique, and for certain special indications also MRI and CT [5]. The present study was conducted to evaluate cases of cervical lymphadenopathy in children.

We found that there were 54 boys and 72 girls. We found that common site was sub mental seen in 30, anterior

cervical in 25, posterior cervical in 22, submandibular in 24, occipital in 16 and juglo-diagastric in 9. Niedzielska *et al.* [6]. Conducted a study over two year period amongst children between ages of 1-15 years with persistent lymph node enlargement of >1 cm in diameter and >2 weeks duration. 38(76%) had unilateral cervical lymph node enlargement, while in 12 children (24%) the pathology was bilateral. We found that in 24 children (48%) the lymph nodes regressed in size over 2 weeks’ time and in 12 children, (24%) they regressed in 4 weeks’ time as proved by ultrasonography examination. Fever was the commonest systemic manifestation in these children (72%).

We observed that cases were of reactive hyperplasia in 104, TB lymphadenitis in 4, lymph node abscess in 12 and Hodgkin’s lymphoma in 6. The etiology of generalized adenopathy may sometimes overlap with localized LAP and almost always indicates an underlying disease. Some important and common causes are as follows: The Epstein-Barr virus typically involves the bilateral posterior cervical, axillary, and inguinal lymph nodes, distinguishing it from the other causes of pharyngitis. LAP appears in the first week of exposure and then gradually subsides over two to three weeks. Low-grade fever, fatigue, and prolonged malaise are the other symptoms.

Dulin *et al.* [7] found that a homogenous echo texture, oval shape, central necrosis, blurred margins are associated with reactive hyperplasia in majority of cases, while a non-homogenous echo texture suggests other diagnosis. Ultrasonography should not be considered as a definitive mean to rule out neoplasia in patients with persistent lymphadenopathy.

Niedzielska *et al.* [8] suggested that some parameters increased the risk of malignancy in children more than 8 years old; these parameters were node size greater than one cm, multiple sites of adenopathy, supraclavicular lymph nodes, fixed nodes, and abnormal chest X-ray. Moreover,

the authors recommended that younger children with a single small node be preferably managed by laboratory tests and clinical follow-up because of the low risk of malignancy.

Conclusion

Authors suggested that common site was submental, anterior cervical, posterior cervical, submandibular in 24, occipital and juglo- diagastric.

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