A STUDY ON CERVICAL LYMPHADENOPATHY AMONG CHILDRENS

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***Abstract*: Lymphadenopathy refers to any disease process involving lymph nodes that are abnormal in size and consistency. Cervical lymphadenopathy is common in the pediatric population, with estimates of 38% to 45% of otherwise healthy children having palpable lymphadenopathy.1The aim of the study was to determine common causes of lymphadenopathy in childrens and mode of management.**

This study was conducted over one year period from JUNE 2017 to MAY 2018 at SKIMS -MCH and phc -GMC Srinagar to evaluate children with lymphadenopathy. The study included all children diagnosed as persistent lymphadenopathy. Age, gender, and accompanying diseases of the patients were assessed. The population was children with CLA (lymph node of ≥ 10 millimetres) were aged between 1-14 years .Patients with cervical abscess or who were previously investigated for lymphadenopathy were excluded. A total of 90 patients with CLA were included in this study .The jugulodigastric and the submandibular lymph nodes were the two most common enlarged nodes in 75% of children. We found that in 52 children (58%) the lymph nodes regressed in size over 2 weeks time and in 25children (28%) they regressed in 4 weeks time as proved by ultrasonic examination. USG and FNAc showed reactive lymphoid hyperplasia in these 33 children. In all of them complete blood count, blood film, ESR and CXRs were normal. Ultrasound showed enlarged lymph nodes with homogenous echotexture in all of them. Our observation indicates also that most cases of lymphadenopathy are self-limited and require no treatment. Failure of resolution after 4 weeks might be an indication for diagnostic histology. The differential diagnosis for cervical lymphadenopathy in children is broad, and a thorough history, physical examination and if need laboratory and radiological investigations are important in identifying the correct diagnosis.The approach to a patient with lymphadenopathy of head and neck region should not only focus on lymphadenopathy ,but additional steps towards determining the etiology need to be improved.

***Keywords*: Lymphadenopathy, Lymph node, Lymphadenitis**

INTRODUCTION

Lymphadenopathy refers to any disease process involving lymph nodes that are abnormal in size and consistency. Cervical lymphadenopathy is common in the pediatric population, with estimates of 38% to 45% of otherwise healthy children having palpable lymphadenopathy.1They are i) localized lymphadenopathy (ii) generalized lymphadenopathy (iii) dermatopathic lymphadenopathy. Based on the duration cervical lymphadenopathy is further classified into i) acute (2 weeks duration) ii) subacute (2-6 weeks duration) iii) chronic (does not resolve by 6 weeks). Distinguishing between localized and generalized lymphadenopathy is important in formulating a differential diagnosis.

Park2 reported that 90% of children between the ages of 4 and 8 years have lymphadenopathy. In the head and neck, most providers consider nodes greater than 1 cm enlarged, except for anterior deep cervical (jugulodigastric) nodes, which may reach 1.5 cm before they are considered enlarged.3,4 Most cases represent benign lymphadenopathy and are self-limited.5,6 The differential diagnosis for cervical lymphadenopathy in children is broad, and a thorough history and physical examination are important in identifying the correct diagnosis. Infection is the most common cause of pediatric cervical lymphadenopathy and is the emphasis of the current discussion. The management of pediatric cervical lymphadenopathy is also discussed, including when imaging and biopsy should be considered.

AIM OF THE STUDY

The aim of the study was to determine common causes of lymphadenopathy in childrens and modes of management.

Method

This study was conducted over one year period from JUNE 2017 to MAY 2018 at SKIMS -MCH and phc -GMC Srinagar to evaluate children with lymphadenopathy. Lymphadenopathy refers to any disease process involving lymph nodes that are abnormal in size and consistency. Persistent lymphadenopathy was defined as enlarged lymph nodes (> 10 mm in diameter) and persisting for more than 2 weeks.

The study included all children diagnosed as persistent lymphadenopathy. Age, gender, and accompanying diseases of the patients were assessed. The population was children with CLA (lymph node of ≥ 10 millimetres) were aged between 1-14 years .Patients with cervical abscess or who were previously investigated for lymphadenopathy were excluded. A total of 90 patients with CLA were included in this study

Initial work up of all patients included: detailed physical exam, complete blood count, blood film, erythrocyte sedimentation rate (ESR), chest X ray (CXR) and ultrasonic examination; viral studies for cytomegalovirus (CMV) and Epstein Barr virus (EBV); and

histological testing by fine needle aspirate (FNAC) or excision were preserved for cases with abnormal findings (abnormal white blood cells (WBC) count; abnormal blood film; high ESR > 20 ml/hr; PPD > 10 mm)

Persistent lymphadenopathy
- 1cm in diameter
- 2 wks duration

↓

. Physical examination
. CBC, Blood film, ESR, PPD, CXR
. U/S
Normal

↓

Observe for 2 wks

↓

Regressing
Abnormal

↓

Histological examination
(FNA, excision)
Viral studies
Persistent or increasing in size
Histological examination
Viral study

CBC: Complete Blood Count; U/S: Ultrasound

RESULTS

We studied 90 children with CLA. The age of patients ranged 1-14 years. Males were 49 (54.4%) and females were 41(45.6%). However, gender difference was statistically insignificant.

All had persistent lymph node enlargement based on our previous definition. Fifty three children (59%) had unilateral cervical lymph node enlargement, while in 37 children (41%) the pathology was bilateral.
The jugulodigastric and the submandibular lymph nodes were the two most common enlarged nodes in 75% of children. Submental and anterior cervical accounted for the rest of the pathology (25%). We found that in 52 children (58%) the lymph nodes regressed in size over 2 weeks time and in 25children (28%) they regressed in 4 weeks time as proved by ultrasonic examination. USG and FNAc showed reactive lymphoid hyperplasia in these 33 children. All of these childrens had tender, mobile, and soft nodes on clinical examination. In all of them complete blood count, blood film, ESR and CXRs were normal. Ultrasound showed enlarged lymph nodes with homogenous echotexture in all of them. Fever was the commonest systemic manifestation in these children (81%). Eight children (8.8%) had lymph node abscess on initial presentation based on clinical and ultrasonic findings, surgical excision was done for them and histological testing confirmed the diagnosis; tuberculous lymphadenitis was diagnosed based on clinical, PPD testing (> 10 mm in diameter) and caseating granuloma on lymph node histology. The ultrasound showed a non-homogenous echotexture with necrotic shadows and areas of calcification. Three children (3.3%) with bilateral lymph node enlargement and splenomegaly had Epstein Barr virus (EBV) proved by polymerase chain reaction (PCR); and two children (2.2%) who had bilateral firm, non-tender lymph node enlargement had Hodgkin´s lymphoma on excisional biopsy. These two children had high ESR on initial presentation, and their CxR's showed widened mediastinum with hilar adenopathy.

DISCUSSION

Lymphadenopathy refers to any disease process involving lymph nodes that are abnormal in size and consistency. Cervical lymphadenopathy is common in the pediatric population, with estimates of 38% to 45% of otherwise healthy children having palpable lymphadenopathy.1
The workup of palpable lymph nodes is a common clinical task for the general practitioners and the pediatricians. Most of the causes of CLA are benign and may resolve spontaneously [7]. It can be, on the other hand, a sign of malignancy or systemic disease, thus understanding the differential causes is of paramount importance for evaluation and precise timely diagnosis for the possibility of a yield of around 15.8% for serious conditions in one series [8].

The differential diagnosis of a persistent neck lump in children is different from adults because of increased incidence of congenital anomalies and infectious diseases and rarity of malignant disorder.

The study indicates that reactive inflammatory changes are the commonest pathology in children as confirmed by other studies.

Non-specific reactive hyperplasia of lymph nodes (NSRH) is defined as a benign reversible enlargement of the lymph node resulting from the proliferation of part or all of its cellular components [8]. NSRH was found in 37.5% of patients with CLA in this study, much less than the 60% reported by Citak et al. [9], and more than Ayugi et al. who reported 29 %. Ranking as first as of the benign

causes in this study, NSRH is known to be of unknown cause and the most common in literature [10]. The difference in occurrence is possibly attributed to different methods of identification and definition of NSRH.

Our observation indicates also that most cases of lymphadenopathy are self-limited and require no treatment. Failure of resolution after 4 weeks might be an indication for diagnostic histology. Most researches indicate that bilateral lymphadenopathy is more likely to be reactive in nature but our study cannot confirm that because in 58% of children enlargement was unilateral.[11]

Mobility, softness and tenderness are almost always associated with reactive changes, which is similar to observation by other researchers.(12).Srouji et al., reported an association of tenderness, mobility and fluctuating size of the nodes with NSRH but their sample was too small to draw conclusive guidelines [13].

The series of investigations done in this study i.e. ESR, hemoglobin concentration, total and differential white cell count are helpful in the differential diagnosis for each patient in the study. This observation is similar to Niedzielska et al results[15] .

Conclusion

Cervical lymphadenopathy in children is often encountered in day to day clinical practice. Most cases represent benign lymphadenopathy and are self-limited Lymph node size and site are not important in diagnosis.The differential diagnosis for cervical lymphadenopathy in children is broad, and a thorough history, physical examination and if need laboratory and radiological investigations are important in identifying the correct diagnosis. Infection is the most common cause of pediatric cervical lymphadenopathy and is the emphasis of the current discussion.
The approach to a patient with lymphadenopathy of head and neck region should not only focus on lymphadenopathy, but additional steps towards determining the etiology need to be improved.

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