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Retrospective Evaluation of Our Patients With Lymphadenopathy

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ABSTRACT

Lymphadenopathy (LAP) is a common clinical finding in childhood. It is mostly reactive and has a good prognosis. Childhood cancers rarely occur. In our study, it was aimed to investigate the clinical and laboratory features of patients who were sent to the general child outpatient clinic due to LAP.

The records of patients with LAP who applied to our General Children's outpatient clinics between January 2018 and December 2019 retrospectively. Age, gender, duration of complaint, treatment, systemic signs and symptoms, features of lymph node, laboratory results was recorded

The median age of 90 patients included in the study was 7 years; It takes place between 3-19 years. The complaints of the application were the most common neck swelling and submandibular and axillary sore after the second. Thirty (33%) of our cases had sore throat. Spleen and liver size were detected in 18 cases. In our study, 16% of cases were performed biopsy. Reactive hyperplasia in nine cases, nodular fasciitis in one case, granulomatous lymphadenitis in two cases, malignancy in two cases and Castleman Disease in one case were detected.

We found that childhood lymphadenopathy frequently develops due to benign causes.

Key Words: Child, lymphadenopathy, Lymphadenitis, Lymph nodes

Introduction

Lymphadenopathy is a common finding in children. Lymphadenopathy can be caused by benign and malignant processes. Whether lymph node enlargement is pathological depends on the age of the patient, size and localization of enlarged lymph nodes (1). However, the definition of lymphadenopathy is generally used for lymph nodes larger than 10 mm in diameter (2, 3, 4). In most cases, lymphadenopathy represents temporary, self-limiting proliferative responses to local or general infections. Lymphadenopathy can be caused by proliferation of node-specific cells such as lymphocytes, plasma cells, monocytes or histiocytes, or infiltration of node external cells, such as neutrophils and malignant cells. It is the most common reactive hyperplasia in children as a result of lymph node biopsy. Reactive hyperplasia is defined as polyclonal proliferation of one or more cell types. In general, lymph nodes up to 0.5 cm in axillary, epithrochlear, occipital, postauricular region, 1 cm in the cervical region, 1.5 cm in the inguinal region, 2 cm in the abdomen and 1.5 cm in the mediastinum are not considered pathological. All lymph nodes in the supraclavicular region should be considered pathological (5). It is stated that the underlying cause is continuous antigenic stimulation caused by frequent childhood infections (6,7). Many children usually have benign small nodes in their cervical, axillary, and groin areas. In the approach to the diagnosis of a patient with lymphadenopathy, it may be possible to reach a large pre-diagnosis with a detailed history, systemic query and physical examination, and only the necessary laboratory examinations can be diagnosed.

The purpose of this study; Between January 1, 2018 and December 24, 2019, patients who were followed up in Van Yuzuncu Yil University Faculty of Medicine Child Health and Diseases (General Pediatrics) outpatient clinic for lymphadenopathy; epidemiological features, history, clinical and laboratory findings and etiological distribution.

Material and Methods

90 cases who applied to Van Yuzuncu Yil University University Faculty of Medicine,

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Department of Child Health and Diseases General Child Policlinic between 2018-2019 with the complaint of enlarged lymph nodes were included in the study retrospectively. The records of the patients determined according to the ICD diagnosis codes were analyzed retrospectively. I88 (lymphadenitis nonspecific) and I88.9 (lymphadenitis not defined) were chosen as the diagnostic code. Data were obtained from the files created in the polyclinic computer system of the patients determined according to these codes. Patients' age, gender, duration of complaint, presence of systemic signs and symptoms, location and structure of the lymph node; The results of the examinations performed in the center and hospital where he first applied, were recorded whether antibiotics were given. From the laboratory tests of the cases included in the study, blood count (hemoglobin, leukocyte, platelet, peripheral blood smear), erythrocyte sedimentation rate, CRP, LDH, EBV, CMV and toxoplasma serology, lung film, lymph node biopsy results were recorded. Complete blood count and peripheral smear were evaluated in all patients, while C-reactive protein, ESR, LDH and serological tests (toxoplasma, EBV, CMV, rubella, brucella, salmonella) were evaluated in some of the patients.

Statistical Analysis: Statistical Package for the Social in evaluating the data Sciences (SPSS) statistics program was used. Our qualification was defined by number and percentage.

Results

The median age of 90 patients included in the study was 7 years; It takes place between 3-19 years. 28 cases were girls (32%), 62 cases were boys (68%). The male / female ratio was found to be 2.21. While 77 (85%) of lymphadenopathies were acute, 74 patients had regional lymph node involvement (Table 1).

Cervical region was the most common location of lymphadenopathies (Table 2). The complaint of presentation was swelling in the neck in 90 cases (84%), swelling in the armpit in nine cases (8%), swelling in the front and back of the ear in one case (1%), swelling in the neck in two cases (2%), supraclavicular swelling in one case (1%) and swelling of the groin in three cases (2%). In addition, one patient was accompanied by abdominal pain. Thirty (33%) of our cases had sore throat. Spleen and liver size were detected in 18 cases. Laboratory evaluation of patients with lymphadenopathy can be seen in Table 3. Complete blood count and peripheral smear were evaluated in all patients, while C-reactive protein, ESR, LDH and serological tests (toxoplasma, EBV, CMV, rubella, brucella, salmonella) were evaluated in some of the patients. There was cat contact in the story of two patients who were diagnosed with cat scratch. One patient had a lesion on the other hand's forearm on the forearm. Both patients had axillary lymphadenopathies on the side with the lesion. The diagnoses were made by biopsy, there was a granulomatous lesion in the biopsy. Our patient, who was diagnosed with Kawasaki, was male, lymphadenopathy was located cervical. The patient also had fever of unknown cause.

One of our patients who applied with abdominal pain had been examined for a long time in other hospitals. Biopsy was performed for diagnostic purposes. The patient, who was diagnosed with Castleman disease, had chronic localized intra-abdominal lymphadenopathy.

Discussion

Lymphadenopathy can be a symptom of malignancies, such as leukemia, lymphoma or neuroblastoma. Benign and malignant differential diagnosis should be made well. Lymphadenopathy in the head and neck region may also be due to congenital malformations, so it needs to be distinguished from many other non-lymphatic masses. This involves the duration of the lymphadenopathy; presence of fever; recent upper respiratory tract infection; sore throat; skin lesions or abrasions, or other infections in the lymphatic region drained by the enlarged lymph nodes; immunizations; medications; previous cat scratches, rodent bites, or tick bites; arthralgia; sexual history; transfusion history; travel history; and consumption of unpasteurized milk. Significant weight loss, night sweats, or other systemic symptoms should also be recorded as part of the patient's history (1). The most common cause of lymphadenopathies in children is infections (5). Many viral and bacterial infections cause growth in lymph nodes. In our study, 38% of our patients had URI over the past month. In the study of Oğuz et al. (8), 21.5% of patients had a history of passing URIs. In Karatas's study (9), 33.5% of patients were diagnosed with various infectious diseases in the past month.

In a retrospective study by Williamson et al. (10), 249 patients' files were examined. When the distribution of enlarged lymph nodes was

Table 1. Features of patients with lymphadenopathy

Features	n	%
Age range (years), median (years)	3-19 yıl (7 year)	
Male / Female	62/28	68/32
Lymphadenopathy duration		
Acute	74	82
Chronic	16	18
Prevalence of lymphadenopathy		
Regional	74	83
Common	16	17
Hepatosplenomegaly	18	20

Table 2. Locations of lymhadenopathies

Localization	n	%
Cervical	54	50
Submandibular	36	33,9
Axillary	9	8
Occipital	2	2
Supraclavicular	1	1
Preauriculer	1	1
İnguinal	3	2

Tablo 3. Laboratory features of our patients with lymphadenopathy

	n	%
Hemoglobin ((g/dL))		
>12	79	88
<12	11	12
WBC (/mm3)		
>10000	37	41
4000-10000	53	59
Platelet Count ((x103 µ/L)		
<150000	4	4
>400000	3	3
150000-400000	83	93
LDH* (Ü/L)		
Normal	20	22
High	70	78
CRP** (mg/dl)		
Normal	61	68
High	29	32
Serological tests		
EBV positivity	6/24	%25
CMV positivity	6/30	%20
Salmonella positivity	2/28	%7,1
Brucella positivity	3/28	%10,7

*LDH: Normal: 0-200 Ü/L , High: >200 Ü/L
**CRP: Normal: 0-5 mg/dl, High: >5 mg/dl

examined, it was observed that it was most common in the head and neck region. In the study of Karadeniz et al. (11), 275 patients whose ages ranged from 2 months to 16 years old were included in the study, and a single lymph node region in 138 patients, 2 or 3 lymph node regions in 171 patients, and common LAP in 73 patients. In a study (12), 126 patients were evaluated with a pre-diagnosis of enlarged lymph node in the pediatric oncology department, and only 28 of them identified non-LAP causes. It was observed that LAP was the cervical region in most of the patients and LAP was regional and was smaller than 3 cm in more than half of the patients.

In the lymph node examination of our patients with lymphadenopathy, 74% of the patients were regional and 16% of them were common LAP. When the settlements were examined, cervical (50%) and submandibular (33.9%) regions were the most important parts. In more than half of our patients (58%), the LAP was harsh, and in the vast majority (92%) LAP was mobile. Redness and temperature increase were detected in 23%, pain and tenderness in 21% of patients. When investigating the cause of lymphadenopathy, a complete systemic examination is important for both infection and malignant diseases. In the presence of lymphadenopathy located in the cervical region, a very careful ear, nose and throat examination should be performed. Petechial, purpura, ecchymosis or pallor should be evaluated seriously. Carefully assessed in the presence of liver and spleen size. In our study, the physical examination findings accompanying LAP included local signs of infection, fever, liver and / or spleen size, pallor and petechial. Upper respiratory tract infections such as pharyngitis, tonsillitis, otitis and sinusitis were the most common regional signs of infection. In 18 patients with lymphadenopathy, spleen and liver size were detected, pallor was found in 3% of patients, petechial was found in 2% of patients. Benign disease (Brucellosis, EBV and CMV infection) was present in 17 of the patients with liver and / or spleen size (n: 18), and one of them was a malignant disease. In cases where the lymph node continues to grow or new ones appear, despite the appropriate antibiotic treatment, it is necessary to perform an excisional biopsy to the lymph node in cases such as non-normalization in 8-12 weeks, and the presence of organomegaly. In the literature, early diagnostic biopsy has been recommended due to the high probability of malignancy in the presence of a fever lasting more than a week, a history of weight loss, and in cases where adenopathies showed lower neck and supraclavicular location (13). Knight et al. in their study (7), they found chronic lymphadenitis in 3%, neoplasia in 13%, granulomatous in 32%, and reactive hyperplasia in 52% of all cases with peripheral LAP. In our study, 16% of cases were performed biopsi. Reactive hyperplasia in nine cases, nodular fasciitis in one case, granulomatous lymphadenitis in two cases, malignancy in two cases and Castleman Disease in one case were detected. Our study was compatible with the literature in terms of biopsy findings and biopsy rates. In our two cases with malignancy, Hodgkin was diagnosed with lymphoma. When looking at benign causes; Acute lymphadenitis in 74 patients, cat scratch disease in two, Kawasaki disease in one, EBV in five cases, Parvovirus in two cases, CMV in one case, brucellosis in three cases, Castleman disease in one case.

As a result, lymphadenopathy is common in childhood It is a problem, careful physical examination and monitoring should be done, and laboratory and imaging methods should be used when necessary. Findings that will hint for malignancy potentials of patients coming with LAP should be evaluated, and further investigations should be performed in patients with these findings without delay.

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