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Original Research Article

Common sites and causes of chronic cervical lymphadenopathy among a sample of Iraqi patients

Hussein Ali Alkumasi*, Mohammed Reda Al Ghadhban, Faris Talib Mohammed

Department of Surgery, Al-Karama, Teaching Hospital, Baghdad, Iraq

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***Correspondence:**
Dr. Hussein Ali Alkumasi,
E-mail: h_alkumasi@yahoo.com

ABSTRACT

Background: Chronic cervical lymphadenopathy may result from a variety of different underlying diseases. It could be a sign of inflammation, metastatic tumor or lymphoma.
Methods: This is a prospective study of 60 patients with cervical lymphadenopathy who attended Al Karama Teaching Hospital for the period (1/12/2008 to 1/2/2010). Data includes their demographic information, clinical presentation, investigations and histopathological results.
Results: Twenty six patients were males (43.3%) and 34 were females (56.7%). The male to female ratio was 1:1.3. Age distribution had shown that the highest incidence occurred in those between (11-20) years old (15 patients, 25%), followed by those between (1-10) years old. The mean age was 31.2±21.5 SD. The most common cause of cervical lymphadenopathy was reactive hyperplasia (23 patients, 38.3%) followed by Tuberculous lymphadenopathy (15patients, 25%). Lymphomas (13 patients, 21.7%) and metastatic deposits (7 patients, 11.7%).
Conclusions: The most common cause of cervical lymphadenopathy was reactive hyperplasia followed by tuberculous lymphadenopathy. Tuberculous lymphadenopathy continues to be a major health problem, and this may be explained by situation in this country in the last few decades that affected the socio-economic, health care and the living standard of population.

Keywords: Cervical, Diagnosis, Lymphadenopathy, Site

INTRODUCTION

Chronic cervical lymphadenopathy (enlarged lymph node for more than 2 weeks) may result from a variety of different underlying diseases.[1] Different causes of lymphadenopathy have been cited in the literature ranging from simple reactive to infectious to malignant. It could be a sign of inflammation, metastatic tumor or lymphoma. Lymph nodes <1 cm in size are rarely malignant. Single or localized lymph nodes may suggest a local infection, although even isolated enlarged supraclavicular, axillary, or epitrochlear lymph nodes have a greater probability of malignancy.[2,3] Metastatic solid tumors are often associated with localized lymphadenopathy, particularly when the lymph nodes are firm, hard, and fixed to the adjacent tissue.

Lymph nodes may be enlarged secondary to reactive processes, which may be either acute or chronic. These reactive processes typically involve different and specific portions of the lymph nodes depending upon the type of cell that is reacting. An example of viral infection associated with lymphadenopathy is infectious mononucleosis, a disorder usually caused by infection with the Epstein-Barr virus (EBV) in young adults. Examples of diseases that are associated with follicular hyperplasia include chronic inflammation caused by organisms, rheumatoid arthritis, and AIDS.[4]

Tuberculosis was the common cause of illness and death prior to the industrial revolution. Improved general public health and hygiene, as well as the introduction of anti-tuberculous treatment, had a dramatic effect on the reduction of TB in different countries. Cervical tuberculous lymphadenopathy has become a rare disease, especially in the Western countries.[5]

Generalized lymphadenopathy, however, particularly if associated with hepatosplenomegaly, an abnormal complete blood count, or B symptoms, is particularly concerning for lymphoma or a systemic disease that mimics lymphoma.[6]

Data about presentation and diagnosis of cervical lymphadenopathy is scarce in Iraq. we undertook this study to present a brief picture about the problem to those who are interested in the field.

METHODS

This is a prospective study of patients presented with cervical lymphadenopathy carried out at Al Karama Teaching Hospital. This study lasted from December 2008 until February 2010.

All the patients were subjected to full inquiry about their complaints with general and local examinations was done, and then sent for investigations which include CBP, abdominal ultrasound, CXR and FNAC according to the availability of these tests at time of presentation and the surgeon's conviction about the benefit of these investigations before proceeding to excisional biopsy for definitive diagnosis. Patients, who did not proceed to the excisional biopsy procedure, were excluded.

The histopathological examination is regarded as the final diagnosis and other investigations results are compared with the final diagnosis.

The selection of patients for excisional biopsy for histopathological examination includes those with at least 2 weeks history of cervical lymphadenopathy despite medication e.g. antibiotic treatment.

The procedure is usually done under general anesthesia unless there is a high risk of anesthesia on patient life, when it is done under local anesthesia. The sample chosen is usually the large and easily accessible lymph node.

The specimen taken was kept in a container with either formaldehyde till it is delivered to the laboratory (either hospital's laboratory or private laboratory depending on the availability of such examination in the hospital at that time).

Inclusion criteria

- Adult above 1year of age
- Iraqi
- Consented to participate in the study

Exclusion criteria

- Patients under age of 1 year
- Non-Iraqi

RESULTS

A total of 60 patients with cervical lymphadenopathy were studied for the period (1/12/2008 to 1/2/2010). Their demographic data were collected together with the results of history, physical examinations, investigations and histopathological results.

Age distribution had shown that the highest incidence occurred in those between (11-20) years old (15 patients, 25%), followed by those between (1-10) years old (13 patients, 21.7%), followed by those between (51-60) years old (11 patients (18.3%)**.** Their mean age was 31.2±21.5 SD. Overall, Twenty six patients were males (43.3%) and 34 were females (56.7%). The male to female ratio was 1: 1.3 (Table 1).

Table 1: The age and sex distribution of the patients.

Age group	Male		Female		Total	
1-10	7	11.7%	6	10%	13	21.7%
11-20	5	8.3%	10	16.7%	15	25%
21-30	3	5%	3	5%	6	10%
31-40	1	1.7%	2	3.3%	3	5%
41-50	1	1.7%	4	6.7%	5	8.4%
51-60	4	6.6%	7	11.7%	11	18.2%
61-70	4	6.6%	2	3.3%	6	10%
>70	1	1.7%	0	0	1	1.7%
Total	26	43.3%	34	56.7%	60	100%

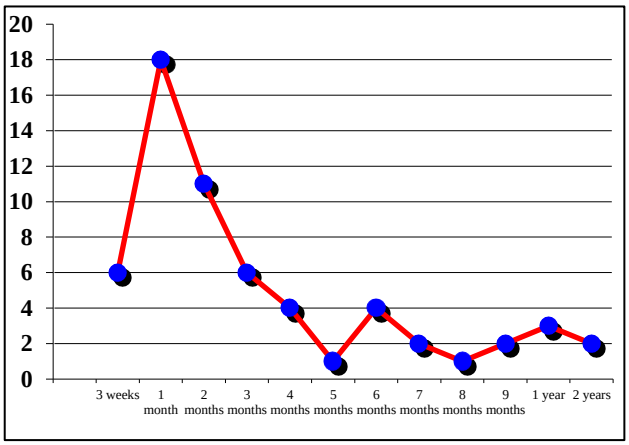

Figure 1: The relationship of the duration of the complaint to the number of patients.

In regard to the duration of lymphadenopathy, it reveals that 30% of patients had history of cervical

lymphadenopathy for one month duration, 18.3% for 2 months and 10% for 3months (Figure 1).

The highest incidence of cervical lymphadenopathy had occurred in the upper internal jugular group (26 patients, 43.3%), followed by those in spinal accessory group (22 patients, 36.7%), and then by those in the transverse cervical group (21 patients, 35%) (Table 2).

Table 2: demonstrates the common site of cervical lymph node group involvement.

Group of lymph node involved	Patients	Reactive hyperplasia	T.B.	Lymphoma	Metastatic carcinoma
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Submandibular	5 (8.3%)		1(1.7%)	1 (1.7%)	3 (5%)
Upper internal jugular	26 (43.3%)	10 (16.7%)	7 (11.7%)	8 (13.3%)	1 (1.7%)
Middle internal jugular	8 (13.3%)	2(3.3%)	2 (3.3%)	4 (6.7%)	
Lower internal jugular	2 (3.3%)	1 (1.7%)	1 (1.7%)		
Spinal accessory	22 (36.7%)	10 (16.7%)	4 (6.7%)	7 (11.7%)	1(1.7%)
Transverse cervical	21(35%)	7 (11.7%)	5 (8.3%)	8 (13.3%)	1(1.7%)
Left supra-clavicular	2 (3.3%)				2(3.3%)
Pre-auricular	1 (1.7%)	1(1.7%)			

Table 3: Sex distribution in specific cause of lymphadenopathy.

The cause of lymphadenopathy	Male	Female	Total
	No. (%)	No. (%)	No. (%)
Reactive hyperplasia	10 (16.7%)	13 (21.7%)	23 (38.4%)
T.B.	5(8.3%)	10 (16.7%)	15 (25%)
Lymphoma	7 (11.7%)	6 (10%)	13 (21.7%)
Metastatic carcinoma	3 (5%)	4 (6.7%)	7 (11.7%)
Warthin's tumor	1 (1.7%)	0	1 (1.7%)
Vascular transformation of the sinus of the lymph nodes	0	1 (1.7%)	1 (1.7%)
Total	26 (43.3%)	34 (56.7%)	100%

The histopathological examination of excisional biopsies was as follows revealed that the most common diagnosis was reactive hyperplasia (23 patients, 38.3%), followed by Tuberculous lymphadenopathy (15 patients, 25%) then Lymphoma (13 patients, 21.7%). Metastatic carcinoma comprised about 11.7% (7 patients) of the diagnosis while Warthin's tumor and Vascular transformation of the sinuses of lymph nodes was diagnosed in (1 patient, 1.7%) each (Table 3).

DISCUSSION

Chronic cervical lymphadenopathy may result from a variety of different underlying diseases. It could be a sign of inflammation, metastatic tumor or lymphoma.

The overall mean age of the patients in this study is (31.2 years±21.5 years SD) with a slight female preponderance, which is similar to reports from Kingdom of Saudi Arabia (K.S.A) which is 35.2 years old±15.7 SD.[7,8]

In this study majority of the patients presenting in the first and second decade (28 patients, 46%). In one of the largest studies from India emphasised that age is not important in predicting the incidence of significant lymphadenopathy.[9]

The most common lymph nodes group affected was upper internal jugular group followed by spinal accessory and transverse cervical groups (43.3%, 36.7% and 35% respectively).

The finding that reactive hyperplasia was the commonest diagnosis is in tandom with other studies. Stani et al reported that 98 patients (46.9%) out of 208 were reactive hyperplasia.[10] The typical clinical presentation was non-tender cervical lymphadenopathy of long duration unresponsive to antimicrobial. All underwent surgical excision which was curative in 66%.[11] Lesions diagnosed as reactive are non-specific chronic inflammatory lesions and are usually benign. Suskind et al in a study from India followed 81 children with non-specific chronic cervical lymphadenopathy and found that in 54 cases, the responsible organism was non-tuberculous mycobacteria.

Atypical lymphocytes are usually found in the peripheral blood, and these same cells, which are reactive T immunoblatsts cause enlargement of the cervical lymph nodes. In contrast to reactive T-cell processes, reactive B-lymphocytes typically result in hyperplasia of the lymphoid follicles and germinal centers (follicular hyperplasia). Examples of diseases that are associated

with follicular hyperplasia include chronic inflammation caused by organisms, rheumatoid arthritis, and AIDS.[12,13]

In this study TB was found in the young age group (the mean age was 27.7years±SD 15.3). This however contrasts with the more recent pattern in the west where older patients (>40 years old) are seen with tuberculouslymphadenitis.[14] High incidence of TB has been attributed to low socioeconomic status and poor standard of living in third world countries. However, In the last decade, the incidence of TB has been raising in the United States of America (USA) and other Western countries, reflecting the increased risk of the infection in acquired immunodeficiency syndrome (AIDS) patients. In the present study, tuberculous lymphadenopathy represents 25% of cervical lymphadenopathy which is similar to a previous study done in Iraq in 1998 which was 24% (12 patients out of 50) which indicates that tuberculous lymphadenopathy continues to be a major health problem.[15]

Higher figures were reported from India and other developing countries. A similar study from India reported an incidence of 51.9% (276 out of 532).[16] In K.S.A., tuberculous lymphadenopathy continues to be a major health problem since it represents 49.5% (207 patients out of 419) of cervicallymphadenopathy.[17] These figures donot reflect the actual incidence of tuberculosis in the above mentioned countries in addition to our country as tuberculous cervical lymphadenopathy is an atypical presentation of TB.

Malignant lymphoma (NHL and Hodgkin lymphoma) was the 3rd cause of cervical lymphadenopathy accounting for 21.7% of the patients. This figure is much higher than figures published from India (2.3%, 12 patients out of 532) in similar studies, but less than a study published in K.S.A. (32.9%).[18,19] NHL was Present in 8 Patients (61.5% of lymphoma patients and 13.3% of all patients) while Hodgkin lymphoma in 5 patients (38.5% of lymphoma patients and 8.5% of all patients), in contrast to a report from K.S.A., Hodgkin lymphoma was predominant (11.2%).[17]

In this study, malignant deposit are seen only in 7 patients (11.7%) which is very low in comparison to 65% of the cases documented in the western series and similar to 11% of the cases documented in Nepal. However, with current diagnostic techniques, this diagnosis now accounts for only 5% of all cancers of the head and neck in which the cervical nodes are involved.[20-22] Historically, the diagnosis of cervical nodal metastases from an unknown primary site was not uncommon and carried a poor prognosis.

In metastatic malignant lesion of the cervical lymph nodes the male to female ratio is 1:1.3 and is more common among the age group more than 50 years while in a similar study in India the lesion was more common in males (85%) but similar age group involved.[23]

CONCLUSION

The most common cause of cervical lymphadenopathy was reactive hyperplasia. Tuberculous lymphadenopathy continues to be a major health problem that needs serious intervention.

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