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Hepatomegaly , Splenomegaly and lymphadenopathy in Iraqi patients with Systemic Lupus Erythematosus

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ABSTRACT

Background:

Systemic lupus erythematosus (SLE) is an autoimmune disease which is known to present with a wide variety of clinical manifestations. Liver and spleen enlargement in SLE are common finding but their prevalence and association with lymph node involvement not fully studied in Iraqi patients.

Aim of study:

Assessment of hepatomegaly and splenomegaly and their relation with lymphadenopathy in Iraqi patients having systemic lupus erythematosus.

Method:

A cross sectional analytical study was done on 50 systemic lupus erythematosus Iraqi patients with active disease according to SLE disease activity index. The patients were attending rheumatology and rehabilitation unit in Al-Hussein teaching hospital.

Results:

In our study we found that hepatomegaly was seen in 36% of patients, splenomegaly in 28% while lymphadenopathy in 26%. We noticed that hepatomegaly and splenomegaly were higher in those having lymphadenopathy compared to those without lymph node involvement. Also liver, spleen and lymph node involvement associated with more mucocutaneuos and constitutional manifestation, while no differences were noticed in renal and neuropsychiatric manifestation .

Key words: Systemic lupus erythematosus, Lymphadenopathy.

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Introduction

Systemic Lupus Erythematosus (SLE) is one of the most widely studied disease in medicine (1). SLE is a multifactorial disease due to a complex interplay of genetic and environmental factors that vary between individuals(2).Environmental factors contribute to initiation of lupus and lupus flare (1). SLE results from chronic and recurrent activation of the immune system , with production of autoantibodies and other protein products contributing to inflammation and tissue damage (1).SLE is a disease with prevalence of that ranges from about 0.03% in Caucasians to 0.2% in afro-caribbean. Some 90% of affected patients are females and the peak onset is between 20 – 30 years . It is associated with considerable morbidity and fivefold increase in mortality compared to age – and gender – matched controls (3). SLE may present as rapidly progressive condition with several systems involved over a few weeks or months , or as slowly progressive condition with an increasing number of systems involved over several years.(4). The hallmark of SLE, is its diversity of presentation with accumulation of manifestations over time and undulating course. Any organ system can be affected by SLE .(5) .In Iraq the first case was reported in 1971 and the prevalence was one case per 1867 of the population(6).

Hematologic abnormalities are common and diverse in SLE , most commonly they include anemia ,leukopenia , thrombocytopenia ,lymphadenopathy (LAP) and splenomegaly.(7).Patients may develop lupus hepatitis which need to be differentiated from viral- induced hepatitis and hepatitis due to drugs (4).

Approximately one – third of patients with SLE will have biochemical elevation of liver

chemistries , and approximately 40 % will have appreciable hepatomegaly. (8) .

Clinically significant liver disease is rarely a direct manifestation of SLE. (9).

Liver enzyme elevations have been associated with active disease and the administration of NSAIDS especially salicylates (5).

Splenomegaly is a common finding in SLE(10) and may be observed with hepatomegaly (9), and in addition, splenic atrophy and splenic lymphoma have also been reported (10). Periarterial fibrosis or “onion skin” changes have been considered pathognomonic of SLE(7), (9).

Hyposplenism is infrequently described in patients with SLE and it is thought to be caused by vasculitic changes. The diagnosis can be made easily by identifying Howell-Jolley bodies on a peripheral blood smear and 99Tc-spleen scan (11),(12),(13) .splenic atrophy and functional asplenism have been also reported .(9). SLE may present as spontaneous splenic rupture .(14).

Lymphadenopathy (LAP) commonly occurs in association with active SLE and is characterized by presence of enlarged ,soft , non tender lymph nodes . Lymphadenopathy can be focal or generalized . The cervical ,axillary and inguinal regions are typically involved. Diffuse lymphadenopathy commonly occurs in association with active SLE and is characterized by the presence of enlarged, soft, nontender lymph nodes. Lymph node histopathology demonstrates reactive hyperplasia and varying degrees of coagulative necrosis. The presence of hematoxylin bodies is specific for SLE (9), Patients with lymphadenopathy had

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significant more constitutional symptoms, more cutaneous symptoms and signs, higher rates of hepatomegaly and splenomegaly(10) ,(15). In one study ,lymphadenopathy was found in 69% of patients (16).

Since there is considerable overlap between the features of SLE and Hodgkin lymphoma (HL) there can be a great difficulty in diagnosing HL in the presence of SLE. persistent lymphadenopathy especially mediastinal and /or retroperitoneal. Eosinophilia and generalized pruritus in patients with SLE not responding to treatment may be indication of consistent HL.(11) , (17).

The differential diagnosis of lymphadenopathy in a patient with SLE includes infection and/or a lymphoproliferative process; lymph node biopsy is sometimes required for diagnosis.(9).

Lymphadenopathy and splenomegaly are more common in children than in adults(18) .

We aimed to study the prevalence of hepatomegaly, splenomegaly and lymphadenopathy in SLE.

Patients and methods

A selected group consisting of 50 patients (46 females and 4 males) with documented SLE who fulfilled 4 or more of the 1997 of American college of Rheumatology revised criteria for classification of SLE (19) were included in this cross sectional study. The patients were attending rheumatology and rehabilitation unit in Al-Hussain Teaching Hospital of Thiqar province between 2017 – 2018.

All patients had active disease according to SLE disease activity index .(20). Full medical history and thorough physical examination where done for every patient with more concentration on the examination of the liver, spleen and lymph node. Slight splenomegaly was considered if the spleen is just palpable to 5 cm below left costal margin, moderate enlargement if it is palpable 5 cm below left costal margin to the level of the umbilicus(21). The examination of the lymph nodes included their site, size, consistency, mobility, number and tenderness.

The following tests were done for every patient: urine analysis , complete blood count and sedimentation rate, 24 hour urinary protein, ECG, , antinuclear antibodies (ANA), anti double strand DNA (Anti ds DNA) ,venereal disease research laboratory test (VDRL) ,Commb's test, blood urea, serum creatinine, chest X-ray looking for hilar lymphadenopathy, ultrasonic examination of the abdomen looking for enlarged liver, spleen and paraaortic lymph node, immunofluorescent antibody test (IFAT) for brucellosis, Rose bengal and widal test, lymph node biopsy was done for ten patients. A signed consent were obtained from all patients before inclusion in the study. Statistical analysis were done by using Chi square.

Results

Fifty patients with documented SLE were included in this cross sectional study, their mean age, mean disease duration and the female male ratio are shown in table(1). The frequencies of Clinical manifestations are shown in table(2). Hepatomegaly was noticed in 18 (36%) (17 females and 1 male) patients, splenomegaly in 14 (28%) (13 females and 1 male) patients, mild splenomegaly in 10 patients and moderate in 4 patients, combined hepatomegaly and splenomegaly in 6 patients. The lymphadenopathy was noticed in 13 (26%) patients who were all females the commonest site was the axillary region

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(10%) followed by cervical (8%) and inguinal (8%) while the least common site was the occipital region (2%). One patient had lymphadenopathy in both cervical and occipital regions. No lymphadenopathy was noticed in the hilar or para-aortic regions. The lymph node were soft not tender multiple variable in size and the biopsy results showed reactive hyperplasia. The frequencies of hepatomegaly splenomegaly and lymphadenopathy are shown in table (3) and their relation to age in table (4).

Hepatomegaly and lymphadenopathy were seen more among younger age groups (P value <0.05). splenomegaly was also more common among younger age groups (P value <0.05). Patients who were having lymphadenopathy had higher rates of hepatomegaly and splenomegaly (P value <0.05) table (5) . The relationships between the clinical manifestations and the hepatomegaly, splenomegaly and lymphadenopathy are shown in table (6). Constitutional and mucocutaneous manifestations were seen more in those having hepatomegaly, splenomegaly and lymphadenopathy (P value <0.05) and no differences in the renal and in neuropsychiatric manifestations.

Discussion

This study showed that hepatomegaly was observed in (36%) of patients which is similar to (34.3%) observed by Al-Rawi et al (6) and higher than (23.5%) (P value <0.05) observed by Ibrahim AM (22), table (7). The difference might be due to our concentration on clinical examination while Ibrahim AM concentrated more on laboratory manifestations of SLE and this might also explain the lower rates of splenomegaly (7.8%) (P <0.05) and lymphadenopathy (9.5%) (P <0.05) observed by Ibrahim AM.

Splenomegaly was observed in (28%) of patients which is higher than (17.9%) (P <0.05) observed by Al-Rawi et al(6) . This difference might be explained by the fact that we used both clinical and ultrasonic examination to search for enlarged spleen and this might explain the higher rate of combined hepatomegaly and splenomegaly in our study (12%) in comparison to (8.95%) (P <0.05) in Al-Rawi et al study. Lymphadenopathy was observed in (26%) of patients which is higher than (20.9%) (P <0.05) observed by Al-Rawi et al(6).

This difference might be explained by the fact that all our patients were having active disease while not all patients of Al-Rawi et al might have active disease. This might also explain why the lower rates of hepatomegaly and splenomegaly in Al-Rawi et al(6).

The results of lymphadenopathy in the three studies on Iraqi patients are lower than the results obtained by other studies which showed a prevalence of (32%) (P <0.05) in one study (18), a prevalence of about (50%) (P <0.05) in another study(10)and a prevalence of 69% (p <0.05) in other study(16) . This indicates that Iraqi patients might have lower rates of LAP than abroad.

The higher rate of hepatomegaly (52%) (P <0.05), lymphadenopathy (40%) (P <0.05) and splenomegaly (32%) (P <0.05) in the younger age groups in our study are in agreement with Rothfield NF(18). Al-Rawi et al (6) noticed that hepatomegaly was more frequent among those in second decade of life in whom fever was also more frequent. These results support our finding that hepatomegaly was more frequent among younger age groups.

Jaundice was not observed in our patients which is similar to the results of Al-Rawi et al.(6).

We found that, those who were having lymphadenopathy had higher rates of

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hepatomegaly and splenomegaly (P <0.05) table (5) and higher rates of mucocutaneous and constitutional manifestations than those without LAP (P <0.05) table (6) and no differences in the renal and the neuropsychiatric manifestations . This is in agreement with Shapira Y et al (15). The results of histopathology are in agreement with other studies(10).(17).

In conclusion hepatomegaly, splenomegaly and lymphadenopathy are relatively common findings and active SLE.

Refereces

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Table 1: Age, sex, mean disease duration in 50 SLE patients.

Total number of patients	**50**	
	Female	**Male**
Number according to sex	**46**	**4**
Percentage	**92**	**8**
Mean (range) age in years	**22.1 (12-40)**	
	Female	**Male**
Mean	**22.1**	**21.2**
Range	**12-40**	**14-39**
Mean (range) disease duration in years	**3.53 (0.25-18)**	
	Female	**Male**
Mean	**3.66**	**2.50**
Range	**0.25-18**	**0.25-6**

Female: male ratio 11.5:

1

Table 2: Frequencies of clinical manifestations in 50 SLE patients.

Clinical manifestations	Number of patients	Percentage
Constitutional manifestations	**45**	**90**
Arthritis	**43**	**86**
Mucocutaneous manifestations	**40**	**80**
Raynaud's phenomenon	**22**	**44**
Neuropsychiatric manifestations	**12**	**24**
Pleurisy	**7**	**14**
Pericarditis	**4**	**8**
Renal manifestations	**26**	**52**
Jaundice	**0**	**0**

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Table 3: frequencies of hepatomegaly, splenomegaly and lymphadenopathy in 50 SLE patients

	Number of patients	Percentage
Hepatomegaly	18	36
Splenomegaly (ultrasound &clinical)	14	28
Splenomegaly (clinical)	10	20
Mild splenomegaly	10	20
Moderate splenomegaly	4	8
LAP (total)	13	26
Cervical LAP	4	8
Axillary LAP	5	10
Inguinal LAP	4	8
Occipital LAP	1	2
Cervical + occipital LAP	1	2
Hepatomegaly + LAP	5	10
Hepatomegaly + splenomegaly	6	12
Splenomegaly + LAP	4	8
Hepatomegaly + splenomegaly + LAP	2	4

Table 4: Frequencies of hepatomegaly, splenomegaly and lymphadenopathy according to age.

Age group (year)	hepatomegaly No.(%)	splenomegaly No.(%)	Lymphadenopathy No.(%)
10-19 (n=25)	13 (52%)*	8 (32%)**	10 (40)*
20-39 (n=25)	5 (20)**	6 (24)**	3 (12)**

* P value <0.05

** P value >0.05

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Table 5: Comparison between hepatomegaly and splenomegaly in patients with lymphadenopathy(LAP) and those without lymphadenopathy (LAP).

	With LAP No. = (13)	Without LAP No.= (37)
Hepatomegaly No.(%)	11 (53.8)	7 (29.7)
Splenomegaly No.(%)	8 (46.2)	6 (21.6)

P value <0.05

Table 6:

Hepatomegaly +ve	Hepatomegaly –ve	Splenomegaly +ve	Splenomegly –ve	LAP +ve	LAP -ve
Arthritis					
16	27	11	32	12	31
Constitutional manifestations					
18	27	14	32	13	33
Mucocutaneous manifestations					
18	22	14	26	13	27
Neuropsychiatric manifestations					
5	7	4	8	3	9
Renal manifestations					
9	17	7	19	7	19
Serositis					
9	3	8	4	7	2

P value. >0.05

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Table 7: Comparison between our findings of hepatomegaly, splenomegaly and Lymphadenopathy in 50 SLE patients and other studies.

Author	Year	Total	Hepatomegaly	Splenomegaly	LAP
No. of patients			No. (%)	No. (%)	No. (%)
Al-Rawi Z et al	1983	67	23 (34.3)**	12 (17.9)	14 (20.9)**
Ibrahim AM	1986	115	27 (23.5)**	9 (7.8)*	11 (9.5)*
Present study	2017	50	18 (36)	14 (28)	13 (26)

* P value <0.05

** P value >0.05

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تضخم الكبد و تضخم الطحال واعتلال الغدد اللمفاوية لدى المرضى العراقيين المصابين بداء الذئب الاحمراري

الدكتور خلف عنبرعبيد الدكتور ناصر حسين صبر

الدكتور عدنان حيال ميسان

الملخص

خلفية الدراسة:

الذئبة الحمامية الجهازيةهي مرض مناعي ذاتي معروف بوجوده مع مجموعة واسعة من المظاهر السريرية. يعتبر تضخم الكبد والطحال في مرض الذئبة الحمراء من النتائج الشائعة ولكن انتشارها وارتباطها بمشاركة العقدة الليمفاوية لم تدرس بشكل كامل في المرضى العراقيين

الهدف:

تقييم تضخم الكبد وتضخم الطحال وعلاقتهما بالاعتلال اللمفاوي في المرضى العراقيين الذين يعانون من الذئبة الحمامية الجهازية

الطريقة:

أجريت دراسة تحليلية مقطعية على ٥٠ مريضاً مصاباً بالذئبة الحمامية الجهازية من العراقيين المصابين بمرض نشط وفقاً لمؤشر نشاط مرض الذئبة الحمراء. كان المرضى يحضرون الى وحدة الروماتيزم والتأهيل بمستشفى الحسين التعليمي

النتائج:

في دراستنا وجدنا أن تضخم الكبد شوهد في ٣٦ ٪ من المرضى ، تضخم الطحال في ٢٨ ٪ بينما اعتلال العقد اللمفية في ٢٦ ٪. لاحظنا أن تضخم الكبد وتضخم الطحال أعلى في أولئك الذين يعانون من اعتلال العقد اللمفاوية مقارنة مع أولئك الذين ليس لديهم إصابة في العقد الليمفاوية. أيضا ان تضخم الكبد والطحال والعقد الليمفاوية ارتبط بالمزيد من المظاهر الجلدية المخاطية والمظاهر الاساسية ، في حين لم يلاحظ أي اختلافات في المظاهر الكلوية والعصبية النفسية

الكلمات المفتاحية: الذئبة الحمامية الجهازية ، اعتلال العقد اللمفية