Method

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Demographics and Clinical Manifestations of Lupus patients: Experience from a Private Hospital in KSA

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Abstract

Introduction: Systemic lupus erythematosus (SLE) is an autoimmune disorder characterized by a chronic pattern of relapses and remissions, with variable presentations ranging from mild skin manifestations to severe, life-threatening illness. The disease is multi-systematic, with the most severe complications related to the kidneys and nervous system. Among the SLE manifestations, lupus nephritis is common, observable in approximately 40% of SLE patients. This study, conducted at a private hospital in Saudi Arabia, aimed to evaluate the demographic characteristics, clinical presentations, and laboratory results of patients with SLE.

Methods: This retrospective study involved 105 SLE patients who were seen in the rheumatology clinic at the specialized medical center in Riyadh from 2007–2022. The medical records of the patients were reviewed for patient demographics, clinical and serological characteristics, and therapeutic data.

Results: The largest proportion (34.3%) was aged between 31 and 40 years. Female dominancy was found, as females represented 91 patients (86.7%). Joint involvement was found to be the most affected organ in the majority of the patients, accounting for 80 patients (76.2%), while The least affected organ was the heart, with cardiac manifestations present in 7 patients (6.7%). The majority of patients (95.2%) displayed a positive antinuclear antibody (ANA) test, and more than one-half of the patients (68.6%) displayed positive Anti-double stranded DNA (Anti-dsDNA). most reported medication was hydroxychloroquine 104 patients (99%), followed by steroids 89 patients (84.8%).

Keywords: Lupus • Internal medicine • Rheumatology • Systemic lupus erythematosus • SLE

Introduction

Systemic lupus erythematosus (SLE) is an autoimmune disorder characterized by a chronic pattern of relapses and remissions, with variable presentations ranging from mild skin manifestations to severe, life-threatening illness [1]. The disease is multi-systematic, with the most severe complications related to the kidneys and nervous system [2]. However, the severity of disease exacerbations or flares in SLE can vary from mild flares that can be effectively treated in the clinic to severe flares that can be life-threatening conditions that require hospitalization and may place the patient at risk for permanent organ damage [3]. Thus, one of the objectives of SLE management is to reduce the severity and frequency of flares [3]. The general symptoms of SLE are arthralgias, myalgias, headaches, mucocutaneous lesions, a decrease in appetite, and weight changes [4,5], but these are not specific symptoms [5]. SLE manifestations may include skin rash, arthralgia and arthritis, renal and neurological involvement, hematologic cytopenias, pericarditis, and pleuritis [5]. These clinical manifestations may not occur concurrently and can appear at any time during the course

of the disease [6]. Among the SLE manifestations, lupus nephritis is common, observable in approximately 40% of SLE patients. It is also considered one of the more serious manifestations, as it is associated with high mortality and morbidity [7]. A renal biopsy is essential for diagnosing and managing lupus nephritis [7]. While early diagnosis and implementation of personalized treatment strategies are imperative in preventing the manifestation of an unfavorable prognosis [8]. SLE is one of many multi-systematic diseases, and the heterogeneity of the disease can lead to delayed diagnosis [5] and challenging [8]. Diagnosis of the disease is not reliant on a single diagnostic marker; instead, it is established by considering both clinical findings and laboratory results [5]. Following diagnosis, the objectives of treatment encompass ensuring the patient's long-term survival, preventing organ damage, and promoting an optimal health-related quality of life [9]. The estimated prevalence of SLE in Saudi Arabia was found to be 19.28 per 100,000 individuals [2], while the estimated prevalence of SLE in the United Arab Emirates is 103 per 100,000 individuals [9]. SLE significantly impacts females more, with approximately 10 women affected for every man diagnosed with the disease [10]. Since the disease increases mortality up to three times that of the general population, it represents one of the most significant causes of death in young women [9]. This study, conducted at a private hospital in Saudi Arabia, aimed to evaluate the demographic characteristics, clinical presentations, and laboratory results of patients with SLE, and a comparative analysis was conducted to compare our findings with previous research conducted at governmental hospitals in Saudi Arabia.

Methods

This retrospective study involved 105 SLE patients who were seen in the rheumatology clinic at the specialized medical center in Riyadh from 2007 till 2022. The patients included those aged 18 years and older, with complete data including follow-up. Patients younger than 18 years and those without follow-up data or with incomplete clinical data were excluded. Confidentiality was ensured for all patients who agreed to participate in the study, and the research ethical committee at the specialized medical center approved the study. The medical records of the patients were reviewed for patient demographics, clinical, serological characteristics, and therapeutic data. SPSS program version 22 was used for data analysis; descriptive statistics of the data were performed using numbers and percentages to describe categorical variables.

Results

This study included 105 patients. Of the patients, the largest proportion 34.3% was aged between 31 and 40 years, while those aged more than 50 years represented the smallest proportion of the patients 15.2%. Female dominancy was found, as females represented 91 patients 86.7% (Table 1).

Joint involvement was found to be the most affected organ in the majority of the patients, accounting for 80 patients 76.2%, followed by renal and hematological involvement, accounting for 50 patients 47.6% each. The least affected organ was the heart, with cardiac manifestations present in 7 patients 6.7%. The involved organs are shown in Table 2.

The laboratory findings of the patients are presented in Table 3. The majority of patients 95.2% displayed a positive antinuclear antibody (ANA) test, and more than one-half of the patients 68.6% displayed positive Anti-double stranded DNA (Anti-dsDNA). The largest proportion of the patients had negative Anti-Ro (SSA), Anti-La (SSB), RNP, and anti-Smith (SM) antibody, whereas the smallest proportion reported positive results. More than one-half of the patients had normal C3 and C4; lupus anticoagulant, anticardiolipin, and beta 2 glycoprotein were negative among the majority of the patients. Moreover, the urine protein creatinine ratio (UPCR) was positive in 35 patients 33.3%. Renal biopsy was performed for indicated patients, and 10 patients 9.5% had class IV lupus nephritis (Table 4).

The medications given to the patients are shown in Table 5. The most reported medication was hydroxychloroquine 104 patients 99%, followed by steroids 89 patients 84.8%. Mycophenolate mofetil

Table 1: Represent patients Age and gender.

Category	Description (n=105)
AGE	
<=30	27 (25.7)
31-40	36 (34.3)
41-50	26 (24.8)
> 50	16 (15.2)
SEX	
Male	14 (13.3)
Female	91 (86.7)

Table 2: Represent the patients Affected organs.

Affected systems	Description (n=105)
Joints	80 (76.2)
Renal	50 (47.6)
Skin	27 (25.7)
Hematological	50 (47.6)
CNS	8 (7.6)
LUNG	10 (9.5)
HEART	7 (6.7)

Table 3: Represent patients laboratory findings.

Laboratory Test	Description (n=105)
ANA	
+VE	100 (95.2)
-VE	5 (4.8)
DNA	
+VE	72 (68.6)
-VE	33 (31.4)
SSA	
+VE	28 (26.7)
-VE	77 (73.3)
SSB	
+VE	13 (12.4)
-VE	92 (87.6)
RNP	
+VE	31 (29.5)
-VE	74 (70.5)
SM	
+VE	28 (26.7)
-VE	77 (73.3)
C3	
Low	41 (39)
Normal	64 (61)
C4	
Low	38 (36.2)
Normal	67 (63.8)
CK	
High	2 (1.9)
Normal	103 (98.1)
LAC	
+VE	30 (28.6)
-VE	75 (71.4)
ACL	
+VE	16 (15.2)
-VE	89 (84.8)
B2GP	
+VE	7 (6.7)
-VE	98 (93.3)

Table 4: Represent kidney work up findings.

Category	Description (n=105)
UPCR	
+VE	35 (33)
-VE	70 (66,6)
CREAT	
High	16 (15.2)
Normal	89 (84.8)
KIDNEY BIOP	
Class II	3 (2.8)
Class III	5 (4.7)
Class IV	10 (9.5)
Class V	1 (1)
Class VI	1 (1)
Not done	84 (80)

Table 5: Represent the medications the patients received.

Medications	Description (n=105)
Hydroxychloroquine	104 (99)
ASPIRIN	25 (23.8)
Vitamin K antagonists	17 (16.2)
ARB	15 (14.3)
ACE	21 (20)
Calcium channel blockers.	16 (15.2)
Cyclophosphamide	5 (4.8)
mycophenolate mofetil	35 (33.3)
TACROLIMUS	0 (0)
CYCLOSPORIN	3 (2.9)
belimumab	3 (2.9)
RITUXIMAB	3 (2.9)
LIPID LOWE.	14 (13.3)
STEROIDS	89 (84.8)
azathioprine	28 (26.7)

was given to 35 patients 33.3%, and azathioprine was given to 28 patients 26.7%. These treatments were followed by aspirin 25 patients 23.8% and angiotensin-converting enzyme (ACE)/angiotensin receptor blockers (ARB) patients 20%.

Discussion

The literature review identified two relevant studies, one conducted at King Fahad Medical City [11] and the other conducted at Asser Center Hospital [2]. The findings from our study strongly support the presence of female dominance, and both studies demonstrated consistent results [2,11]. However, while we found that the highest percentage of patients were diagnosed between the ages of 31 and 40, constituting 34.3% of the total sample, one of the other studies reported an average age of disease onset of 28.6 ± 10 years [2]. Furthermore, our findings revealed that the joints were the primary organ affected, accounting for 76.2% of the cases, followed by renal and hematological manifestations at 47.6% each. However, heart involvement was observed in only 6.7% of the patients. In contrast, a previous study found that mucocutaneous and musculoskeletal manifestations were the most commonly observed, accounting for 76% and 57% of cases, respectively [2]. Moreover, another study found that skin rash was the predominant manifestation in SLE, representing 69.6% of the cases, while arthralgia and/or arthritis accounted for 44.6% of the observed manifestations [11]. Additionally, our study demonstrated the presence of a high antinuclear antibody (ANA) titer, which was detected in 95.2% of the cases. This finding closely aligned with that of another study, which showed an ANA positivity rate of 96.2% [2]. Our study revealed that classes IV and III were the predominant findings in kidney biopsies,

which corresponded to the findings of another study that reported these classes as common results of kidney biopsies [11].

Conclusion

SLE is an autoimmune disorder characterized by a chronic pattern of relapses and remissions, with variable manifestations ranging from mild skin manifestations to severe, life-threatening illness. The clinical characteristics of lupus can be difficult to determine, as the disease exhibits unpredictability, affecting multiple organs with different levels of severity. This study provided Demographics and clinical manifestations of lupus patients that was conducted in a private hospital in KSA. We evaluated 105 patients and we found that, the largest proportion (34.3%) was aged between 31 and 40 years, and Female dominancy was observed (86.7%). Joint involvement was found to be the most affected organ in the majority of the patients, accounting for 76.2%, in other hands the least affected organ was the heart which was present in 7 patients (6.7%). ANA was positive in 95.2 % of the patients. Hydroxychloroquine was given to 104 patients (99%).

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