Cutaneous Manifestations among Hospitalized Systemic Lupus Erythematosus

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Objective: To evaluate the cutaneous manifestations of hospitalized patients with Systemic Lupus Erythematosus (SLE).

Design: A Retrospective Study.

Setting: Asir Central Hospital (ACH), Abha, Saudi Arabia.

Method: Admitted SLE patients from January 2012 to May 2017 were reviewed. The following data were documented: Personal characteristics, disease diagnosis and duration, comorbidities, cutaneous features, hospitalizations including indication, length and outcome of each admission.

Result: Two hundred seven SLE patients from January 2012 to May 2017 were admitted. Thirty-one patients had concomitant cutaneous manifestations. The age ranged from 13-78 years. Thirty (96.8%) were females. The average number of hospitalizations for all SLE patients was 2±1. The most common indication for hospitalization was musculoskeletal complaints in 15 (48%) patients, followed by hematological causes in 13 (42%), lupus nephritis in 11 (35%), and infection in one (3%) of cases.

Conclusion: The skin is commonly involved in SLE and should be always evaluated and controlled to minimize hospitalizations and improve the prognosis of SLE.

Bahrain Med Bull 2020; 42 (3): 183 - 186

SLE is an autoimmune connective tissue disease affecting multiple organs, influenced by genetic and environmental factors. SLE is a spectrum of disorder that ranges from mild localized skin disease to a life-threatening disease. Cutaneous manifestations are usually common among SLE patients. Cutaneous manifestations are divided into specific and non-specific.

Specific cutaneous manifestations are subdivided into acute, subacute, and chronic. Acute cutaneous lupus is a photosensitive rash that presents on the malar area and described as the butterfly rashes. The photosensitivity can be mild in the skin of colored patients. The butterfly rashes usually spare the nasolabial folds and ranges from mild erythema and itching to severe facial edema. Sometimes it can be difficult to differentiate between a butterfly rash, a heliotrope rash of dermatomyositis, and seborrheic dermatitis. However, sparing of the nasolabial folds and the presence of other cutaneous lupus signs could lead to the diagnosis[1-4].

Subacute cutaneous lupus is another specific subtype of cutaneous lupus characterized by photosensitivity and the presence of anti-Ro autoantibodies. It usually presents with scaly erythematous annular plaques on the trunk and face. Ten to 15% of patients with subacute cutaneous lupus will develop systemic disease[1,2].

Chronic cutaneous lupus is a specific subtype of cutaneous lupus that is further subdivided into discoid, panniculitis, perniosis and tumidus lupus. Discoid lupus is the most common

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type of chronic lupus, presents with disc-like erythematous scaly plaques, and follicular plugging. It usually occurs on the scalp and face, and it is associated with central scarring and peripheral hyperpigmentation[1,2].

Other non-specific cutaneous manifestations of SLE include aphthous ulcers, a diffuse non-scarring alopecia, urticaria, vasculitis, thrombophlebitis, livedo reticularis, purpura, inter-phalangeal erythema and Raynaud's[1,2].

The aim of this study is to evaluate the cutaneous manifestations of hospitalized patients with SLE.

METHOD

Patients with SLE admitted to the hospital from January 2012 to May 2017 were reviewed. Patients aged ≥12 years who fulfilled the 1997 SLE diagnostic criteria were included in the study. Two hundred seven SLE patients were admitted; 31 patients had concomitant cutaneous manifestations. The following data were documented: personal characteristics, diagnosis, and duration, comorbidities, cutaneous features, hospitalizations including indication, length and outcome of each admission.

SPSS version 21 software was used to analyze the data. We performed the two-tailed test for all our statistical analyses where we considered an alpha error of ≤0.05 value statistically significant. For descriptive measures, we used a simple frequency and percentage. We used the mean with standard deviation to describe scale data.

RESULT

Thirty-one SLE patients were hospitalized with different cutaneous manifestations; age ranged from 14 to 70 years with a mean age of 29.6 ± 9.8 years. Thirty (96.8%) patients were females and 17 (54.8%) patients were married. The duration of SLE disease ranged from one year to 12 years with a mean duration of 4.5 ± 3.6, see table 1.

Table 1: Personal Characteristics of SLE Patients with Cutaneous Manifestations

Bio-demographic data		No	%
Age in years	< 30 years	16	51.6%
	30+	15	48.4%
Range		14-70	
Mean ± SD		29.6 ± 9.8	
Gender	Male	1	3.2%
	Female	30	96.8%
Marital status	Single	14	45.2%
	Married	17	54.8%
Duration Of SLE (years)	At presentation	17	54.8%
	< 5 years	8	25.8%
	5+	6	19.4%
Range		1-12	
Mean ± SD		4.5 ± 3.6	

Eleven (35.5%) patients had RA, 8 (25.8%) had a renal disorder, 6 (19.4%) had anemia, 5 (16.1%) had a thyroid disorder, and one (3.2%) was diabetic, see figure 1.

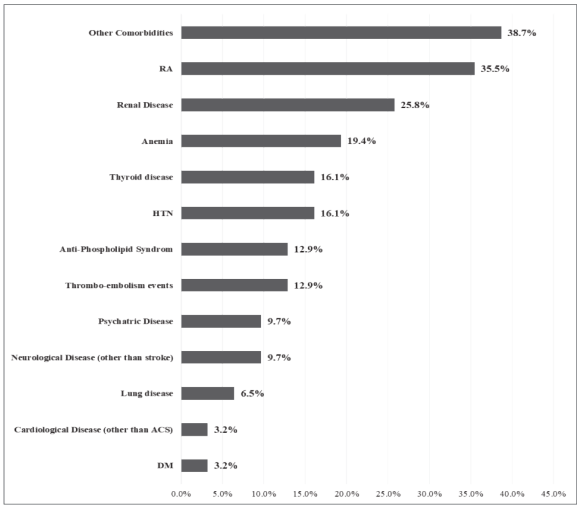

Figure 1: Co-morbidities among SLE Patients with Cutaneous Manifestations

Twelve (38.7%) patients stayed in the hospital for less than 7 days while 7 (22.6%) stayed for more than two weeks. Fifteen (48%) had musculoskeletal disorders, 13 (42%) had hematological disorders, 11 (35%) had lupus nephritis, and one (3%) had infections, see figure 2.

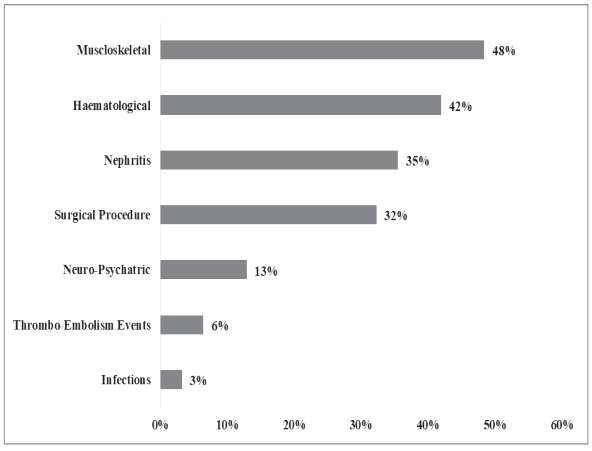

Figure 2: Cause of Admission among SLE Patients with Cutaneous Manifestations

Twenty-one (68%) patients had mouth ulcers, 10 (32%) had alopecia, 10 (32%) had malar rashes, 8 (26%) had cutaneous ulcerations, and 7 (23%) had photosensitivity. One (3%) patient had purpura, one patient (3%) had livedo reticularis, and one (3%) patient had inter-phalangeal erythema, see figure 3. Fourteen (45.2%) patients had acute cutaneous manifestations. Seventeen (54.9%) patients had three or more cutaneous manifestations while 6 (19.4%) had only one cutaneous manifestation. Cutaneous manifestations were the primary cause of admission among four (12.9%) cases, while 27 (87.1%) cases presented with cutaneous features associated with another primary cause of admission, see figure 4.

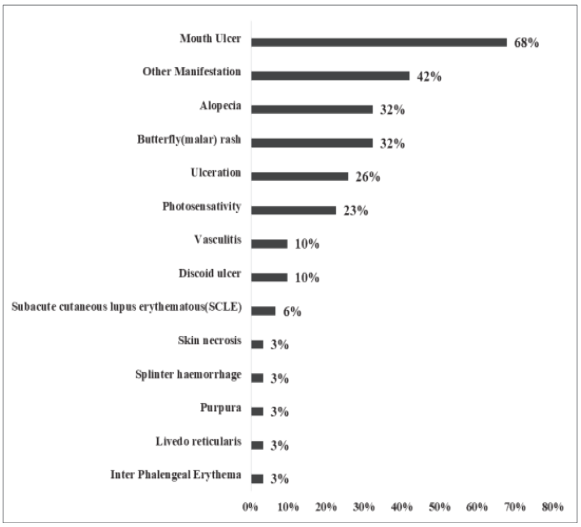

Figure 3: Cutaneous Manifestations among SLE Patients

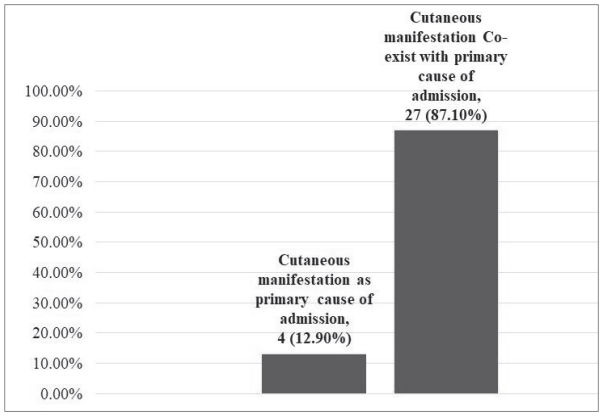

Figure 4: Cutaneous Manifestations among SLE Patients

Fourteen (45.2%) patients had acute manifestations. Six (19.4%) patients aged 30 years or more had 4 to 6 cutaneous manifestations compared to only one (3.2%) patient below the age of 30 years. Two (6.5%) patients had the disease for more than five years and had 4 to 6 different cutaneous presentations compared to 4 (23.5%) of those who had SLE for less than 5 years, see table 2.

Table 2: Cutaneous Manifestations of SLE Patients

Factor		Number of cutaneous manifestations								P
		One		Two		Three		4-6		
		No	%	No	%	No	%	No	%	
Age in years	< 30 years	2	12.5%	6	37.5%	7	43.8%	1	6.3%	0.049*
	30+	4	26.7%	2	13.3%	3	20.0%	6	40.0%	
Gender	Male	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0.369
	Female	6	20.0%	7	23.3%	10	33.3%	7	23.3%	
Duration Of SLE (years)	At presentation	2	11.8%	5	29.4%	6	35.3%	4	23.5%	0.329
	< 5 years	1	12.5%	3	37.5%	3	37.5%	1	12.5%	
	5+	3	50.0%	0	0.0%	1	16.7%	2	33.3%	
Cutaneous manifestation as primary cause of admission	No	6	22.2%	5	18.5%	9	33.3%	7	25.9%	0.050*
	Yes	0	0.0%	3	75.0%	1	25.0%	0	0.0%	
Duration of cutaneous manifestations	Acute	3	21.4%	5	35.7%	3	21.4%	3	21.4%	0.578
	Chronic	3	17.6%	3	17.6%	7	41.2%	4	23.5%	

DISCUSSION

SLE patients have specific and non-specific cutaneous features[5,6]. Although musculoskeletal flare was the most common cause of admission of our SLE patients, mucocutaneous flare was another common cause of admission in 15% of patients. In our study, out of the 207 hospitalized-SLE patients, only 31 patients had concomitant cutaneous manifestations, which is slightly lower than previously reported by another study[4]. Jallouli et al found that the most common reason for hospitalization was active SLE; mucocutaneous flare was the second most common reason for active disease that led to admission[4].

Another study found the most common reason for hospitalization was disease flare (17.5%), mucocutaneous flare was seen in only in 8%[5]. In our study, we found that cutaneous manifestations were the primary cause of admission among 12.9% of cases, while 77.4% of cases presented with cutaneous features with another primary cause of hospitalization. If musculoskeletal or hematological flares were the primary reasons for admission, concomitant mucocutaneous flare was an important reason to warrant admission.

Zečević et al found that the type of cutaneous lesions in SLE together with the number of their different types is a useful and reliable predictor of disease activity and prognosis[8]. We found that 54.9% of our patients had three or more cutaneous manifestations while 19.4% had only one cutaneous manifestation. Most of our patients had non-specific cutaneous presentations, where 45.2% were reported as acute cutaneous features and the remaining as chronic.

Specific and non-specific cutaneous manifestations of SLE were well documented[7,8]. The previous studies did not identify the types of skin lesions and how common each is in their hospitalized patients. Of our admitted SLE patients with cutaneous flare, 68% presented with mouth ulcers, 32% with alopecia, 32% with butterfly rash, and 23% with photosensitivity. Longitudinal multicentric study is needed to classify skin manifestations and mucocutaneous flare among hospitalized SLE patients.

Limiting factors for our study included retrospective chart review and lack of documentation of cutaneous manifestations and failure to consult dermatologist.

CONCLUSION

The skin is commonly involved in SLE and should be always evaluated and controlled to minimize hospitalizations and improve the prognosis. Dermatologists and rheumatologists should be aware of the frequency of cutaneous manifestations as a cause of admission.

Author Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes.

Potential Conflicts of Interest: None.

Competing Interest: None.

Sponsorship: None.

Acceptance Date: 15 June 2020.

Ethical Approval: Approved by the ethics & research committee of ACH & King Khalid University.

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