SHORT COMMUNICATION

COMMON MANIFESTATIONS OF SYSTEMIC LUPUS ERYTHEMATOSUS IN TERTIARY RHEUMATOLOGY CENTRE, PERAK.

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Abstract

Objective. A hospital-based cross-sectional descriptive study documenting the common clinical manifestations of systemic lupus erythematosus (SLE) in a tertiary rheumatology center in the state of Perak in Malaysia. Method. The 1997 American College of Rheumatology classification revised criteria and the 2012 Systemic Lupus International Collaborating Clinic criteria were used and all patients attending the rheumatology clinic at a tertiary referral centre were included. The demographics and other clinical information were retrieved from patients' outpatient clinical records. Results. One-hundred SLE patients were included in this cross-sectional study, the majority of whom were of the Malay ethnic group (47%) followed by Chinese (41%) and Indians (12%). Almost 91% of the patients in our study were females. Mean age was 34.94 years (SD = 12.7; 95% confidence interval, 32.42 – 37.46), almost 79% were in the 20-50 years age group. Anti-nuclear antibody (ANA) was positive in 70% of patients while only 28% were positive for anti-double-stranded deoxyribonucleic antibody (dsDNA). Major clinical manifestations were hematological disorders (53%) followed by a malar rash (41%), photosensitivity (30%) and oral ulcers (27%). Conclusion. Clinical phenotypes, demographics of SLE patients in this study shows no significant difference across age, gender, and ethnic groups. The current data, though limited, shows a high frequency of hematological and mucocutaneous manifestation in these patients.

Keywords: Systemic Lupus Erythematosus, signs symptoms, immunologic biomarkers.

Introduction

Systemic lupus erythematosus (SLE) is a complex multisystem autoimmune disease with a spectrum of clinical manifestations ranging from mild to life-threatening conditions with a higher prevalence in females. The incidence and prevalence of SLE vary in different countries based on various epidemiological studies.[1,2,3] The complex immune-pathogenesis of SLE is yet to be fully elucidated, genetic and epigenetic factors, environmental such as ultraviolet light, and microbes, immunoregulatory and hormonal factors have been found to play an important role.[4,5,6] The diagnostic conundrum of SLE varies widely due to heterogeneity in the standard of care by health care professionals, influenced by socio-economic factors, ethnicity, and beliefs as well as individual variations.

The prognosis for patients with lupus today is much better with the advancement of new medical modalities and diagnostic tools strengthened by the increased awareness of health care professionals and the public of this incurable condition. The diverse ethnicity and beliefs in Malaysia make it very unique and may provide an excellent resource in studying SLE.

Materials and Methods

This was a cross-sectional descriptive study of the presentation of patients with SLE in the rheumatology outpatient clinic of Hospital Raja Permaisuri Bainun, Ipoh conducted in 2016. The details of demographic, clinical and laboratory data were retrieved from the patient's clinical notes.

All patients diagnosed with SLE attending rheumatology clinic who fulfilled The American College Rheumatology (ACR) classification criteria for SLE and the 2012 Systemic Lupus International Collaborating Clinic (SLICC) criteria were included.[7,8] Patients who had been diagnosed and treated as SLE in nephrology, hematology or dermatology clinics and never been referred to rheumatologist were not selected. Suspected secondary SLE such as overlap syndrome or drug-induced lupus were also excluded.

Statistical Analysis

Descriptive analysis using SPSS version 23 was performed followed by cross-tabulation using Chi-square test. Level of significance was fixed at 0.05.

Ethical Consideration

The approval for this study was obtained from the institutional research ethics committee and central medical research ethics committee. All data and personal information about the patients to be kept private and confidential.

Results

A total of one hundred patients were identified in the study of whom 47% were Malay, 41% Chinese and 12% Indian. Female to male ratio was 9:1, a clear female predominance. Mean age was 34.94 years (SD = 12.7; 95% CI, 32.42 – 37.46). The majority of the patients were in the 20 to 50 years old age group (79%). Immunological markers, ANA and anti-dsDNA were positive in 70% and 28% of patients respectively (Table 1).

The common clinical manifestation were hematological abnormalities of which anemia (24%) was the commonest feature while 7% presented with pancytopenia. Cutaneous manifestations were the next common presentation of SLE namely malar rash (41%) followed by a photosensitive rash (30%), mucosal ulcer (27%) and discoid rash (7%) (Table 2). Other manifestations encountered were arthritis, serositis (pleurisy and pericarditis), a neurological disorder (psychosis and seizure) and nephritis.

There were no significant differences in the clinical manifestations across all 3 ethnic groups although Malay and Chinese showed a propensity towards ANA and anti-dsDNA positivity as well as hematological presentation. This was seen in both males and females. However, discoid rash and hematological manifestations showed a significant association across both genders ($p < 0.05$).

There was a significant association between age group with photosensitivity rash, and neurological manifestation ($P<0.05$). Hematological disorders were common in the 20 to 50 year age group and malar rash among patient below 30 years. ANA was positive in 70% of patients in almost all range of ages ($P<0.05$) and 28% of them had a positive anti-dsDNA.

Discussion

SLE is an autoimmune disease present globally affecting both genders, all ethnic groups and age groups. There is a female preponderance. Whether the diverse socio-demographic and geographical distribution in Malaysia has any impact on the incidence and prevalence of SLE has yet to be studied.

SLE is more frequent in females with a female: male ratio varying from 8-15:1 which is comparable to our study population.[9,10] The clinical phenotype does differ between both genders, with arthritis or arthralgia is less frequent in males as depicted in the literature.[11,12] Hematological manifestations are common in our female SLE patients consistent with a previous study, the majority of whom presented with anemia and very much less with multiple cell line involvement.[13]

In this study, Malays had a higher prevalence of SLE compared to Chinese, contrary to another study done in a different region of Malaysia.[14] Heterogeneity in clinical phenotypes in SLE has been shown to be influenced by genetic predisposition spread over the different geographical region.[15] Asian patients present with a less frequent general manifestation of SLE compared to African descendants.[16] There was no significant difference in clinical manifestations across all 3 ethnic groups in our study.

SLE can develop at any age. The mean age in this study is comparable with a large cohort in a well-established epidemiological study which showed a high incidence of adult SLE in the age group 24 to 32 years.[17] Late-onset SLE (age 50 years and above) and non-specific manifestations were less frequent in our study.

Conclusion

The prevalence and broad spectrum of clinical manifestations of SLE in our study population are greatly influenced by various factors. More rigorous multicenter epidemiologic studies conducted in future may minimize the disparities in the prevalence and incidence of SLE in Malaysia.

Table 1. Sociodemographic baseline characteristics

	n (%)
Ethnic	
Malay	47 (47)
Chinese	41 (41)
Indian	12 (12)
Others	0 (0)
Gender	9 (9)
Male	91 (91)
Female	
Mean age ±SD	34.9 ±12.7
Immunological markers:	
*ANA positive	70 (70)
$^{\beta}$Anti-dsDNA positive	28 (28)

*ANA= anti-nuclear antibody; $^{\beta}$dsDNA = double stranded deoxyribonucleic antibody.

Table 2. Clinical manifestations, immunological and serological positivity according gender, ethnicity and age groups.

Clinical, Immunological and serological	Gender, n (% of positivity in the category)		*p*	Ethnicity, n (% of positivity in the category)			*p*	Age Groups (Years), n (% of positivity in the category)						*P*
	Male	Female		Malay	Chinese	Indian		<20	20 – 29	30 - 39	40 – 49	50 - 59	≥ 60	
Malar rash	1 (11.1)	40 (44.0)	ns	17 (36.2)	19 (46.3)	5 (41.7)	ns	6 (66.7)	13 (40.6)	11(45.8)	8 (34.8)	3 (30.0)	0 (0)	ns
Discoid rash	3 (33.3)	4 (4.4)	0.015	4 (8.5)	3 (7.3)	0	ns	0	1 (3.1)	2 (8.3)	2 (8.7)	1 (10)	1 (50)	ns
Photosensitive	3 (33.3)	27 (29.7)	ns	13 (27.7)	12 (29.3)	5 (41.7)	ns	6 (66.7)	9 (28.1)	5 (20.8)	9 (39.1)	0	1 (50)	0.025
Oral ulcer	1 (11.1)	26 (28.6)	ns	14 (29.8)	10 (24.4)	3 (25.0)	ns	2 (22.2)	9 (28.1)	7 (29.2)	7 (30.4)	1 (10)	1 (50)	ns
Serositis	2 (22.2)	7 (7.7)	ns	7 (14.9)	2 (4.9)	0	ns	1 (11.1)	3(9.4)	3 (12.5)	0 (0)	2 (20.0)	0 (0)	ns
Arthritis	0	9 (9.9)	ns	4 (8.5)	3 (7.3)	2 (16.7)	ns	2 (22.2)	0 (0)	1 (4.2)	4 (17.4)	2 (20.0)	0 (0)	ns
Renal	0	11 (12.1)	ns	7 (14.9)	3 (7.3)	1 (8.3)	ns	2 (22.2)	5 (15.6)	2 (8.3)	1 (4.3)	1 (10.0)	0 (0)	ns
Neurological	0	9 (9.9)	ns	7 (14.9)	2 (4.9)	0	ns	0 (0)	3(9.4)	1 (4.2)	2 (8.7)	3 (30.0)	0 (0)	0.046
Hematological	1 (11.1)	52 (57.1)	0.012	23 (48.9)	25 (61.0)	5 (41.7)	ns	5 (55.6)	15 (46.9)	14 (58.3)	10 (43.5)	8 (80.0)	1 (50.0)	ns
ANA*	5 (55.6)	65 (71.4)	ns	31 (66%)	30 (73.2)	9 (75)	ns	8 (88.9)	23 (71.9)	21 (87.5)	11 (47.8)	5 (50.0)	2 (100)	0.017
Anti dsDNA**	2 (22.2)	26 (28.6)	ns	12 (25.5%)	15 (36.6%)	1 (8.3%)	ns	4 (44.4)	7 (21.9)	6 (25.0)	8 (34.8)	2 (20.0)	1 (50.0)	ns

Table 3. Clinical manifestations based on ACR* Classification criteria 1982. N=100.

Criteria	n (%)
Malar rash	41 (41)
Discoid rash	7 (7)
Photosensitivity	30 (30)
Oral ulcer	27 (27)
Arthritis	9 (9)
Serositis	
a) Pleuritis	9 (9)
b) Pericarditis	0 (0)
Renal disorder	
a) Proteinuria	3 (3)
b) Cellular casts	0 (0)
c) Proteinuria and cellular casts	8 (8)
Neurologic disorder	
a) Seizure	5 (5)
b) Psychosis	4 (4)
Hematologic disorder	
a) Anemia	24 (24)
b) Leukopenia	9 (9)
c) Thrombocytopenia	0 (0)
d) Bicytopenia	7 (7)
e) Pancytopenia	7 (7)

*ACR= American College of Rheumatology

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