

Serum Ferritin Level and SLE Disease Activity Index: a Corelation with SELENA SLEDAI

Dr. Md. Abu Bakar Siddique
IMO, Dept of Cardiology
Dhaka Medical College Hospital

Background

- Systemic lupus erythematosus (SLE) is an autoimmune disease with unpredictable disease course.
- Prevalence of the disease vary from 30 to 50/100,000 population.
- Due to the role of estrogen in etiopathogenesis of disease, SLE is more common in females with a ratio ranging from 7:1 to 15:1

Background cont..

- Ferritin is an acute phase reactant and raised in different inflammatory and autoimmune disease including SLE.
- Several investigators reported positive association between high serum ferritin level and disease activity in SLE patients.
- Among several disease activity measuring tools, SELENA-SLEDAI is currently using in most of the clinical trials to measure disease activity.
- The aim of the study is **to compare SELENA-SLEDAI with serum ferritin in SLE patients**

Materials and methods

- This cross-sectional study conducted in rheumatology clinic of Dhaka Medical College Hospital (DMCH)
- Total 59 sample were selected by purposive convenient sampling who met inclusion and exclusion criteria and gave informed written consent
- We chose SELENA-SLEDAI as disease severity index which is mostly used in clinical trials. **SLEDAI \leq 10 was considered as low disease activity and SLEDAI \geq 11 was considered as high disease activity**

Materials and methods cont..

- Data analysis was done by using SPSS (statistical package for social science) version 22 statistical software for windows
- The findings of the study were presented in frequency and percentage in tables and graphs.
- Mean for continuous variables and frequency distribution for categorical variable were used to describe the characteristics of the total sample.
- Linear regression analysis was done to show the association of disease severity and the serum ferritin level

Results

Table 1: Distribution of the Socio-demographic characteristics (n =59)

Characteristics	Group	Frequency (%)
Age	11-20	22 (37.29)
	21-30	28 (47.46)
	31-40	7 (11.86)
	41-50	2 (3.39)
Sex	Male	4 (6.78)
	Female	55 (93.22)

Table 2 Distribution of clinical features of the Patients (n= 59)

Categories	Symtoms	Percentage
Constitutional	Fever	37 (62.71)
Musculoskeletal	Arthralgia/Arthritis	48 (81.35)
Mucocutaneous	Oral ulcer	36 (61.01)
	Alopecia	28 (47.45)
	Vasculitic rash	15 (25.43)
	Malar rash	14 (23.73)
	Photosensitivity	11 (18.65)
	Bullous lesion	1 (1.70)
	Renal	Proteinuria
	Leg edema	18 (30.51)
Neuropsychiatric	Headache	2 (3.39)
	Seizure	2 (3.39)
	Transverse myellitis	2 (3.39)
	Psychosis	1 (1.70)
	Visual disturbance	1 (1.70)
	Cranial nerve palsy	1 (1.70)
	Serositis	Pleural effusion
	Ascitis	3 (5.09)
		2 (5.09)

Table 3 Distribution of biochemical parameters of the Patients (n= 59)

Variables	Frequency	Percentage
Anaemia (≤ 10 g/dl)	31	52.54
Leucopenia (< 3000 /cmm)	1	1.70
Thrombocytopenia (< 100000 /cmm)	3	5.09
Pancytopenia	1	1.70
Haematuria (≥ 5 /HPF)	6	10.17
Pyuria (≥ 5 /HPF)	16	30.77
Granular cast	4	7.69
Raised Serum creatinine	6	10.17
ANA positive	59	100
dsDNA positive	55	93.22

Table 4 Variation of Organ involvement in SLE (n=59)

Organ	No. of Patients	Frequency
Lupus Nephritis	21	35.60
Pulmonary	06	10.17
Neuropsychiatric	05	8.48
Hematological	05	8.48
Cardiac	03	5.09

Table 5 Severity of disease activity according to SELENA-SLEDAI (n=59)

SELENA-SLEDAI	Disease activity (DA)	Organ involvement	Frequency (%)
≤ 10	Low	SLE	21 (35.60)
		Renal Lupus	4 (6.78)
≥ 11	High	SLE	38 (64.41)
		Renal Lupus	17 (28.81)

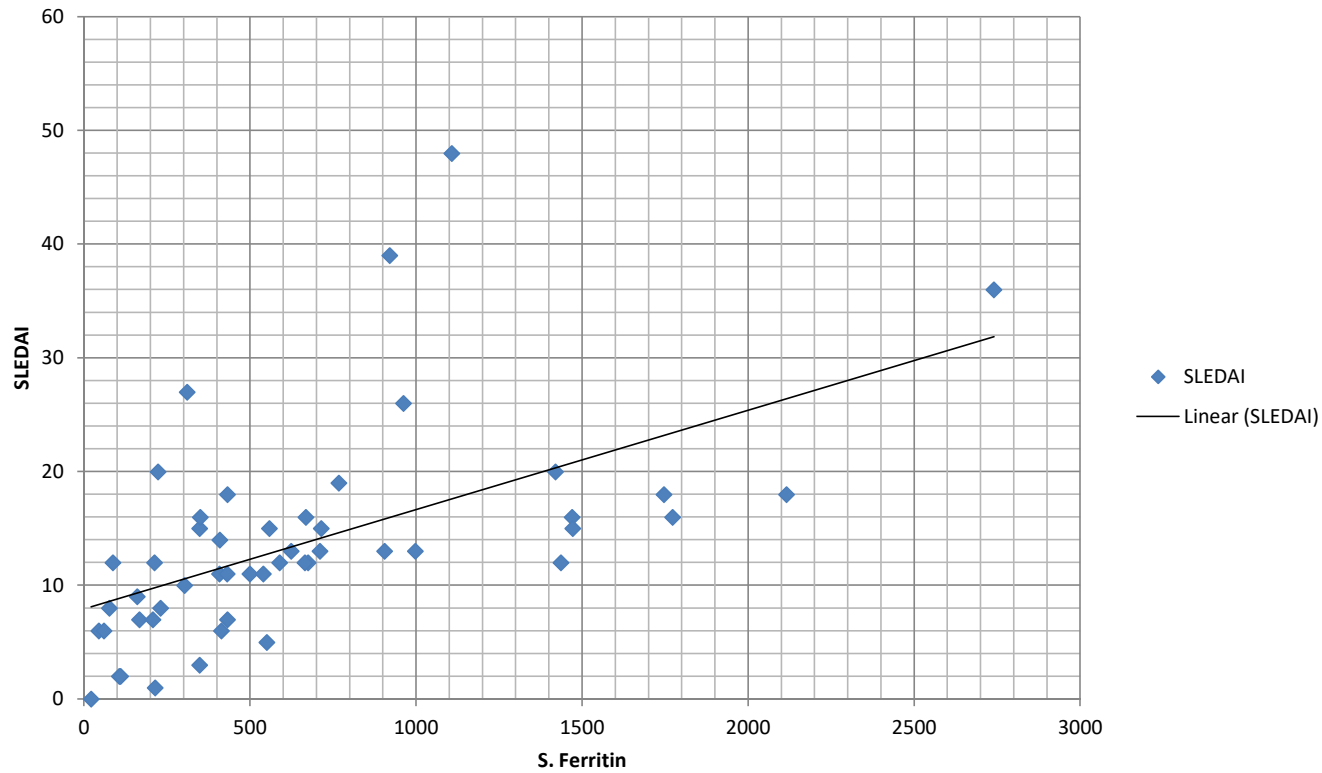
Table 6 Relation of S. Ferritin level with SELENA-SLEDAI of all SLE patients (n=59)

Disease Activity	SLEDAI	n	Mean S. Ferritin ±SD(ng/ml)	Z value	p value
Low	≤10	21	203.75±157.60		
High	≥11	38	984±655	4.4	<0.0001

Table 7 Relation of S. Ferritin level with SELENA-SLEDAI of renal lupus patients (n=21)

Disease Activity	SLEDAI	n	Mean S. Ferritin ±SD(ng/ml)	Z value	p value
Low	≤10	4	198.25±177.81		
High	≥11	17	888.44±716	4.1	<0.0001

Figure: Relationship of S. Ferritin with SELENA-SLEDAI



Conclusion

- A positive correlation between the serum ferritin levels and disease activity scores were observed but further large multicenter studies are required to include it as a severity marker.

THANK YOU