FRI0394

THE ROLE OF D-DIMER TEST AS A SCREENING TOOL FOR VENOUS THROMBOEMBOLISM IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AS COMPARED TO MATCHED CONTROL SUBJECTS

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Background: d-dimer test is widely used as a screening tool for venous thromboembolisms (VTE). Meanwhile, d-dimer can increase in various conditions including severe infection, and inflammation. However, it has been rarely reported whether d-dimer test is useful for screening of VTE in systemic lupus erythematosus (SLE) patients.

Objectives: We evaluated the role of d-dimer test as a screening tool for VTE in patients with SLE, compared to age-, and sex-matched non-autoimmune disease subjects.

Methods: In this retrospective cohort study, a total of 283 SLE patients and 1132 age-, and sex-matched control subjects (those who had no rheumatic diseases) who underwent d-dimer test as a screening test for VTE were enrolled at Seoul National University Hospital between January 2000 and July 2017. VTE was defined to be present when a thromboembolism was proven in imaging studies which included computed tomography, lung perfusion scan or duplex ultrasonography. Predictive value of d-dimer test for VTE was compared between SLE patients and control subjects by calculating area under the curves (AUC) in receiver operating characteristics (ROC) curves of d-dimer test. Finally, the usefulness of d-dimer test was evaluated in different subsets of SLE patients by analysing ROC curves.

Results: The mean (SD) age of the 283 SLE patients was 36.8 (13.5) years and that of 1132 control subjects was 38.2 (12.8) years. The mean (SD) plasma level of d-dimer was 2262.1 (3794.5) ng/ml in SLE patients, while it was 1087.5 (5063.1) ng/ml in the control group ($p < 0.001$). The incidence of VTE was significantly higher in SLE patients than the controls (12.7% vs. 5.8%, $p < 0.001$). When the cut-off value of d-dimer test was set to 500 ng/ml, the AUC for VTE was only 0.614 in SLE patients, while it was 0.891 in the control group, suggesting that d-dimer test may not be useful as a screening tool for VTE in SLE patients. When the SLE patients were divided according to the presence of antiphospholipid antibodies (APS Abs), the AUC value for VTE was 0.788 in patients who didn't have APS Abs but it was only 0.556 in patients who had APS Abs.

Abstract FRI0394 – Figure 1. ROC curves in control and SLE group (cut-off value of d-dimer = 500 ng/ml)

Conclusions: d-dimer test cannot predict VTE in SLE patients as accurately as in general population. In SLE patients, d-dimer's diagnostic capability for VTE is even lower in the presence of APS Abs.

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FRI0395

SLE DISEASE ACTIVITY INDEX GLUCOCORTICOID INDEX (SLEDAI-2KG) IDENTIFIES MORE RESPONDERS THAN SLEDAI-2K

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Background: Systemic Lupus Erythematosus Disease Activity Index-2000 (SLEDAI-2K) is one of the most commonly used disease activity indices in clinical practice and research but this index doesn't account for severity within each descriptor. Moreover, in clinical trials, the use of standard of care (SoC), which includes glucocorticoid (GC) often confounds trial results.

We developed and validated a novel lupus disease activity index, SLEDAI-2K GC (SLEDAI-2KG), that describes disease activity while accounting for GC dose. SLEDAI-2KG has the same descriptors as SLEDAI-2K in addition to a new descriptor "GC" with different weight scores based on the dose of GC. Furthermore, SLEDAI-2KG has a low administration burden and a simple scoring system similar to SLEDAI-2K.

Objectives: We aimed to compare the performance of SLEDAI-2K and SGI in identifying responders in response to SoC.

Methods: Patients have been followed prospectively according to a standard protocol between January 2011 and January 2014, at a single lupus centre, with active disease (SLEDAI-2K ≥ 6), on prednisone ≥ 10 mg/day, and with follow up visits within 5–24 months were studied. Treatment was determined based on the judgment of the treating rheumatologist.

Response to SoC therapy, at first follow up visit, was assessed by SLEDAI-2K and SLEDAI-2KG. Responders were defined based on the decrease in SLEDAI-2K and SGI score by ≥ 4 . The performance of SLEDAI-2K and SGI was also compared using different cut-off points; 5, 6 and 7. Descriptive analysis was used.

Results: 111 patients met the inclusion criteria of the study and were further analysed. Patients' characteristics are represented in table 1.

SLEDAI-2KG identified more responders at 6 months (94% vs. 84%) and at 12 months (92% vs. 76%) compared to SLEDAI-2K by cut off of 4. SLEDAI-2KG also identified more responders with cut off points 5, 6 and 7 (table 2).

Abstract FRI0395 – Table 1. Patient Characteristics

Variables	Total (n=111)
Sex (female)	98 (88.3%)
Age at baseline (mean $\pm$ SD)	35.75 $\pm$ 11.51
SLE duration at baseline (mean $\pm$ SD)	9.02 $\pm$ 7.74
Ethnicity	13 (11.7%)
Asian	23 (20.7%)
Black	51 (45.9%)
Caucasian	24 (21.6%)
Others	
Months from baseline to 1 st follow-up (mean $\pm$ SD)	7.68 $\pm$ 2.95
SLEDAI-2K at baseline (mean $\pm$ SD)	12.39 $\pm$ 6.03
Prednisone dose at baseline (mg/day) (mean $\pm$ SD)	22.94 $\pm$ 14.19
SLEDAI-2KG at baseline (mean $\pm$ SD)	17.48 $\pm$ 6.78
SLEDAI-2K at 1 st follow-up	8.08 $\pm$ 6.04
Prednisone dose at 1 st follow-up (mg/day) (mean $\pm$ SD)	15.23 $\pm$ 10.94
SLEDAI-2KG at 1 st follow-up	12.67 $\pm$ 6.98

Abstract FRI0395 – Table 2. Responders by SLEDAI-2K and SLEDAI2KG in 111 patients

Indices	Percentage of responders at 6 months				Percentage of responders at 12 months			
	≥ 4	≥ 5	≥ 6	≥ 7	≥ 4	≥ 5	≥ 6	≥ 7
SLEDAI-2K	84%	68%	68%	59%	76%	57%	55%	44%
SLEDAI-2KG	94%	88%	83%	79%	92%	80%	70%	62%
Additional Responders	10%	20%	15%	20%	16%	23%	15%	18%

Conclusions: The novel index, SLEDAI-2KG, is superior to SLEDAI-2K in identifying responders at 6 and 12 months accounting for steroid dose and thus adjusting for severity within each descriptor of SLEDAI-2K. SLEDAI-2KG has the ability to enhance analyses in clinical trials to differentiate between responders on minimal and moderate/large doses of GC.