non-renal), 14 patients with ANCA-associated vasculitis (AAV) all of whom had active renal involvement and 20 healthy volunteers were selected as control groups. Serum and urine levels of TWEAK, MCP-1 and NGAL were tested using ELISA.

Results: Sixty-one SLE patients, 51 (83.6%) of whom were female, with a median disease duration of 83 (23.5-135) months and a median age of 35 (27-47.5) were included in the study. Serum and urine levels of TWEAK and NGAL were significantly higher in the active SLE group compared with the inactive SLE (n=31) group (sTWEAK: p=0.005; uTWEAK: p=0.026; sNGAL: p<0.001; uNGAL: p=0.002); whilst no significant differences regarding serum and urine MCP-1 levels were observed (p=0.189 and p=0.106). uTWEAK (p=0.237), sMCP-1 (p=0.141), uMCP-1 (p=0.206), sNGAL (p=0.419) and uNGAL (p=0.443) levels did not differ between patients with active LN and non-renal active SLE; yet levels of sTWEAK were higher in patients with active LN (p=0.006). There were no differences between active LN and renal active AAV. Levels of all biomarkers were correlated with SLEDAI (sTWEAK: p=0.001; uTWEAK: p=0.006; sMCP-1: p=0.049; uMCP-1: p=0.014; sNGAL: p<0.001; uNGAL: p=0.002).

Conclusion: sTWEAK, uTWEAK, sNGAL and uNGAL are significant biomarkers showing disease activity in SLE. However, our results implicate that these biomarkers may not be specific for SLE, and can be elevated in patients with active renal involvement of AAV. sTWEAK may be of use for discriminating active nephritis from non-renal active disease in SLE. Further studies are awaited to confirm these results (This study was funded by Istanbul University with the project number TTU-2017-24738 and Turkish Society for Rheumatology).

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SAT0185 THE EFFECTS OF DISEASE ACTIVITY IN SYSTEMIC LUPUS ERYTHEMATOSUS ON COGNITIVE FUNCTION

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Background: Cognitive dysfunction (CD) affects up to 90% of systemic lupus erythematosus (SLE) patients and significantly impacts patient quality of life. The cause is multifaceted with many factors common across chronic diseases. It is thus difficult to ascertain the direct impact active disease in SLE has upon immediate cognitive function.

Objectives: The aim of this study was to investigate the effects of active disease in SLE on CD. We compared cognitive measures in SLE patients with stable disease activity (SLE-S) to those with active disease (SLE-F).

Methods: 34 SLE-S and 24 SLE-F were recruited, all meeting 1997 ACR criteria. Active disease was defined as BILAG A or B with a change in treatment. Stable disease was defined as SLEDAI-2K ≤4. Overall 14/24 SLE-F patients were assessed again at 2nd visit (v1 vs v2) when their disease activity had reduced. CD was measured using tests from a computerized battery of tests (CANTAB®). fMRI was used to examine neuronal responses to a working memory and attention task (n-back) and a facial emotional processing task (FERT). Analysis compared the SLE-S and SLE-F groups as well as a within group comparison for v1 vs v2. fMRI data were analysed using SPM12. All other data were analysed using SPSS 22.

Results: There were no differences between the SLE-S and SLE-F groups or between v1 and v2 on demographic and clinical measures except disease activity. The SLE-F group scored higher than the SLE-S group on the MADRS depression scale (p=0.003) but no other significant differences in psychiatric symptoms were observed. There were no significant differences on the CANTAB® for either comparison (table 1). The fMRI showed a SLE-S vs SLE-F difference in n-back related response in the medial prefrontal cortex (p=0.012; figure 1). No v1 vs v2 differences were found, nor for either comparison for the FERT.

Table 1. Baseline characteristics, SLE-S vs SLE-F

	Variable		SLE-F (n=24)	SLE-S (n=34)	p-value
			Mean (S.D.), Median (LQ, UQ) or n (%)		
Demographic and clinical	Age (years)		36 (12)	39 (11)	0.330
	Age at diagnosis (years)		26 (9)	28 (11)	0.537
	BILAG total score*		12 (9, 16)	1 (0, 2)	**<0.001**
	Oral corticosteroids (y/n)		15 (63)	12 (35)	0.061
	Current immunosuppressant use		18 (75)	14 (41)	**0.016**
	Current antimalarial use		18 (75)	19 (58)	0.261
	Biologic medication		4 (17)	3 (9)	0.432
Depression & anxiety	MADRS	8 (4, 12)	4 (1, 8)	**0.003**	
	HADS – A	6 (5, 10)	6 (3, 10)	0.713	
CANTAB®	Visual memory	28 (17, 75)	28 (19, 63)	0.897	
	Attention	18 (15, 22)	13 (12, 20)	0.063	
	Emotion processing	62 (10)	62 (9)	0.727	
	Executive function	1.3 (1.3, 1.6)	1.4 (1.3, 1.7)	0.981	

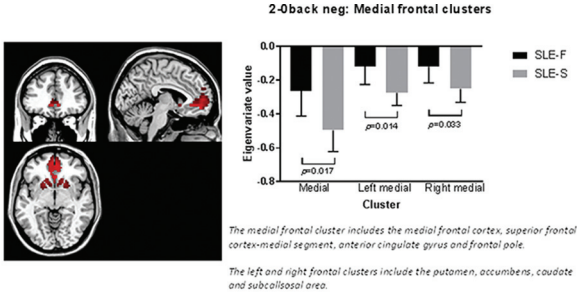

Figure 1 Differences in BOLD response between the SLE-S and SLE-F groups during the n-back (working memory task), 2-0back condition, negative main effect.

Conclusion: In a cohort well matched on confounding factors these results suggest that active disease does not impair cognitive function. However, the differences in the medial frontal cluster during the working memory task may indicate the use of compensatory mechanisms to maintain cognitive function as has been found elsewhere. Alternatively, as this is a default mode network region, often implicated in self-reflective processes it may be that CD is more directly associated with differences in mood. As such when treating SLE patients with self-reported CD it is important to consider factors other than disease activity.

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