PREVALENCE, RISK FACTORS, AND IMPACT ON MORTALITY OF NEUROPSYCHIATRIC LUPUS: A LARGE PROSPECTIVE SINGLE-CENTRE STUDY

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Background: Neuropsychiatric involvement is one of the most serious involvement of SLE and generally associated with a worse prognosis. However, previous reports about the prevalence and risk factors of neuropsychiatric systemic lupus erythematosus (NPSLE) have yielded inconsistent findings. Also, there are only few studies of the prognosis of NPSLE, especially in a large prospective cohort.

Objectives: To identify the prevalence, risk profiles, and impact on mortality of NPSLE.

Methods: Patients from the Hanyang BAE lupus cohort were registered and followed from 1998 to 2015. Demographics, autoantibodies, SLEDAI and SLICC/ACR damage index were collected at baseline and then annually. Patients followed from 1998 to 2015. Demographics, autoantibodies, SLEDAI and SLICC/ACR damage index were collected at baseline and then annually. Patients followed from 1998 to 2015.

Results: The prevalence of NPSLE by ACR 19 case definition was 38.3%, and 19.3% by Ainiala criteria. Higher SLEDAI, APLA positivity, absence of anti-dsDNA antibody at SLE diagnosis and fewer years of education increased NPSLE risk. Patients with any NPSLE manifestation had a three-fold increased risk of mortality (HR 3.09, p=0.04), and patients with focal CNS NPSLE showed nearly an eight-fold increased risk of mortality in SLE patients (HR 7.83, p=0.01). Among the 216 patients with Ainiala NPSLE, sixty-four (29.6%) had multiple events. The two most common symptom combinations were CVA with CVA, seizure, organic brain syndrome, psychosis, visual disturbance, cranial nerve disorder. In the 3rd trimester with severe preterm birth (<34 w), that could be related to the strong association observed between CS use and pPROM.

Conclusions: Use of IS seems to be associated with premature miscarriages; this could reflect their use in patients with a more severe disease phenotype. The exposure to CS in doses greater than 35 mg/w in the 1st trimester seems to be associated with preterm birth at 34th–36th w, while in the 3rd trimester with severe preterm birth (<34 w), that could be related to the strong association observed between CS use and pPROM.

Disclosure of Interest: None declared

Positive (or outward) vessel remodelling has been postulated to explain the finding of atherosclerosis that does not encroach on the arterial lumen. Positive remodelling index and presence of low attenuation noncalcified plaque (<30 Hounsfield units) are characteristic vessel changes in unstable coronary plaques.

**Objectives:** We sought to characterise noncalcified plaque lesions in patients with systemic lupus erythematosus and to identify high risk lesions.

**Methods:** A total of 66 patients who meet the American College of Rheumatology classification criteria for SLE were included in the study. Of these, 30 patients had two studies. All patients underwent coronary CT angiography. Coronary plaque area was measured by manual tracing for the difference between the area within the external elastic membrane and the area of the vessel lumen at the site of maximal luminal narrowing as observed on a cross-sectional coronary CT angiography image. Each noncalcified plaque detected within the vessel wall was evaluated with the minimum CT density and vascular remodelling index (RI). Total density, plaque volume per patient and low density/high density noncalcified plaque ratio were then compared by patient characteristics which included age, sex, ethnicity, BMI, smoking, SLEDAI, PGA, anti-dsDNA, low complement, current prednisone, current hydroxychloroquine, current NSAID use, history of cardiovascular event, hypertension, lupus anticoagulant, antiphospholipid, hypercholesterolemia, and methotrexate use.

**Results:** All patients had at least one plaque with a positive remodelling index (>10%), and 83.1% (n=271) of total identified plaques had a positive remodelling index. Low density noncalcified plaque volume was associated with age (p<0.01) and body mass index (p<0.01). African Americans had significantly more (p<0.05) low density noncalcified plaque compared to patients of other ethnicities. The low density/high density noncalcified plaque ratio did not correlate with any patient characteristics and was on average 46% (SD=10). There were only cardiovascular events in the studied group and there were no differences in remodelling index or low density noncalcified plaque observed in this group, but the number of events was small.

**Conclusions:** Positive remodelling index and low attenuation noncalcified plaques are characteristic vessel changes seen in unstable coronary plaques. They are common in patients with lupus and are significantly more likely to be seen among African American patients, patients with a BMI>30, and the elderly (age over 60).

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**FACTORS ASSOCIATED WITH LEFT VENTRICULAR DIASTOLIC DYSFUNCTION IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS**

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**Objectives:** Myocardial damage is common and often silent in patients with systemic lupus erythematosus (SLE). In this study, we investigated the clinical parameters associated with left ventricular diastolic dysfunction in SLE patients using algorithms of 2016 American Society of Echocardiography/European Association of Cardiovascular Imaging (ASE/EACVI) recommendations.

**Methods:** Sixty consecutive SLE patients and 38 controls matched for age and sex who were free of clinical cardiovascular disease were enrolled. Left ventricular diastolic dysfunction was assessed by echocardiography using 2016 ASE/EACVI guidelines. The demographic, clinical and laboratory data were obtained from medical records.

**Results:** Diastolic dysfunction was more common in SLE patients compared with controls (38.3% versus 13.2%, p=0.011), while LV ejection fraction was not different between groups. When patients were divided into 2 groups according to the presence of diastolic dysfunction, patients with diastolic dysfunction had higher prevalence of hypertension (p<0.001), dyslipidemia (p=0.031) and chronic kidney disease (p=0.045), but there was no difference between groups with regard to other organ involvement or autoantibody profile. Importantly, patients with diastolic dysfunction showed significantly higher SLICC/ACR damage index (p=0.001) and C-reactive protein levels (p=0.005). In multivariate regression analysis, hypertension (OR=16.6, 95% CI=3.466–79.479, p=0.001), higher SLICC/ACR damage index (OR=1.68, 95% CI=1.039–2.720, p=0.034), and CRP level (OR=1.12, 95% CI=1.004–1.254, p=0.042) was independently associated with diastolic dysfunction in SLE patients.

**Conclusions:** Diastolic dysfunction is more common in SLE patients, and overall inflammatory burden reflected by SLICC/ACR damage index as well as conventional cardiovascular risk factors are associated with development of diastolic dysfunction in SLE patients.

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