Background Neuropsychiatric symptoms of systemic lupus erythematosus (SLE) are one of the more common features and are the least understood.

Objectives To clarify the association of clinical manifestations and instrumental investigation findings in children with neurolupus.

Methods 20 children (aged 5–15 years) that met 4 or more ARA criteria of SLE were examined. Investigations included immune system changes indicating increased lupus activity, lupus anticoagulant, anticardiolipin antibodies by ELISA, electroencephalogram (EEG), in 10 patients magnetic resonance imaging (MRI).

Results The clinical manifestations of neurolupus were transient ischaemic attack (2), epilepsy (3), chorea (1), coordination disturbance (4), low extremity paresis (1). Eighteen children demonstrated psychiatric disturbances (psychosis, hysteria, phobia, anorexia, behavioural abnormalities). In all 20 children intensity of neuropsychiatric symptoms correlated with lupus activity. The most severe neuropsychiatric clinical manifestations were associated with the presence antiphospholipid antibodies. Instrumental assessment revealed pathologic abnormalities in both: children with subtle clinical symptoms and children with severe brain damage. EEG demonstrated diffuse abnormalities in 12 patients, epilepsy in 3, but not sensitive enough for diagnosis. MRI visualised diffuse and focal changes in 10 children: widening subarachnoid space and cortex atrophy.

Conclusion MRI can visualise diffuse and focal changes even in children with no history of overt symptoms of neurolupus and seems to be of real help in diagnosis. Antiphospholipid antibodies appeared to be the laboratory parameter most frequently relied upon in the diagnosis of neuropsychiatric SLE and in decision regarding treatment.

FRI0118 A CLINICOPATHOLOGICAL STUDY OF TUBULOINTERSTITIAL CHANGES IN PATIENTS WITH LUPUS NEPHRITIS

¹S Mulic, ¹H Seleskovic, ²E Cickusic, ³S Trnacevic, ⁴E Zerem, ²Z Karaslihovic. ¹Rheumatology, ²Pathology, Clinical Center, Tuzla, Bosnia & Herzegovina; ³Nephrology; ⁴Ultrasound

10.1136/annrheumdis-2001.153

Background The prognostic importance of renal involvement in Systemic Lupus Erythematosus (SLE) is well known. Predominant interstitial nephritis is a rare manifestation of SLE. The prognostic importance of histopathological tubulointerstitial (TIC) changes in renal tissue in patients with lupus nephritis (LN) is very little known.

Objectives Our objectives were to more precisely determine TIC in the renal tissue and correlate these data with clinical features, daily proteinuria and 24-hour creatinine clearance in pts with LN. Our long-term goal is to identify pts during clinical quiescence who may be at high risk of developing progression to renal failure from LN.

Methods Renal biopsies from 26 pts were analysed with emphasis on TIC. At the time of biopsy all pts had defined clinical evidence of active LN. Presence and intensity of oedema, inflammatory mononuclear infiltrate, fibrosis, hyaline casts and tubular atrophy were determined. TIC were graded from 0 to 3 (absent, mild, moderate and severe). We correlated these results with clinical data of 24-hour creatinine clearance (CC) and 24-hour urine total protein excretion (TP) at pre-treatment and post-treatment period.

Results Patients were divided into 4 groups: first group with absent TIC (0 score) 6 pts with TP mean 2.17 gr/24 h, CC mean 1.32 ml/s; second group with mild TIC (1–5 score), 12 pts with TP mean 2.61 gr/24 h, CC mean 0.76 ml/s; third group with moderate TIC (6–10 score) 5 pts with TP mean 2.67 gr/24 h, CC 0.95 ml/s; fourth group with severe TIC (11 to 15 score) 3 pts with TP mean 1.52, CC mean 0.37 ml/s. These analyses were repeated after treatment with corticosteroids and cytotoxic drugs at period of 3 to 6 months and correlated with previous data. Significant results occurred for TP in first group ($p < 0.05$) and in second group ($p < 0.01$), as well as in second group for CC ($p < 0.05$).

Significant improvement for both parameters occurred in group of 12 pts with mild TIC. (TP $p < 0.01$; CC $p < 0.05$). In group of pts with severe TIC, TP has decreased as well as CC.

Conclusion TP decrease as well as increase of CC correlated well with mild degree of TIC. TIC could be prognostic predictors in LN. This has to be proved with a greater number of pts.

FRI0119 HLA-DM POLYMORPHISM IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

¹C Da Silva Simoes, ¹J Morel, ²MT Salles, ²O Avinens, ¹J Sany, ²JF Eliaou, ¹B Combe. ¹Rheumatologie; ²Immunologie, Hopital Lapeyronie, Montpellier, France

10.1136/annrheumdis-2001.154

Background HLA-DR (DRB1*15 and DRB1*03) component is weakly associated to SLE and other genes and genetic regions are investigated in order to better characterise the genetic predisposition to the disease. DMA and DMB genes are located within the HLA class II region. The alpha beta heterodimer encoded by these genes is directly involved in the HLA class II-restricted antigen presentation pathway. Limited nucleotide polymorphism has been described in the 3rd exon of the DMA and DMB genes.

Objectives To look for an association between DM polymorphism and SLE, the DMA and DMB allele distribution was compared between patients and controls from the same geographic area.

Methods 73 SLE patients were selected according to the 1997 ACR criteria. 147 unrelated control individuals were randomly selected (random controls: RC). A second group of 88 unrelated controls who were closely matched for DRB1 genotypes with patients was defined (matched controls: MC) in order to determine whether the association between SLE and certain DM alleles resulted from direct influence of the DM genes or indirect influence through linkage disequilibrium with alleles at the DRB1 locus. All the individuals were typed for DR and DM by SSOs after genomic DNA extraction of peripheral mononuclear cells and PCR. The significance of differences in phenotype frequencies was determined by Fischer's exact tests with Bonferroni correction.

Results 49.3% of the patients carry either DRB1*15/16 (21.9%) or DRB1*03 alleles (27.4%), or both. DMA*0103, DMA*0104 and DMB*0102 were found to be more frequent in SLE patients compared to RC ($p = 0.0012$, $p = 0.0012$, $p = 0.0097$, respectively). Similarly the frequency of these alleles was increased in patients compared to MC ($p = 0.0058$, $p = 0.0013$, $p = 0.017$, respectively) suggesting a direct influence of DM genes on SLE susceptibility. This direct influence was confirmed by showing no significant difference of DM allele frequencies between RC and MC. Finally, after stratification of the patients and the MC

according to the DRB1 genotypes, DMA*0104 was increased in DRB1*15/16, DRB1*03 negative patients.

Conclusion These data show an association between SLE susceptibility and DMA*0103, *0104, DMB*0102. The influence of these alleles cannot be explained by linkage disequilibrium with SLE-associated alleles.

FRI0120 VALVULAR ABNORMALITIES IN SLE IS STRONGLY RELATED TO ARTERIAL DISEASE

¹EK Svenungsson, ²K Jensen-Ustad, ³U De Faire, ¹J Frostegård. ¹Department of Rheumatology; ²Department of Clinical Physiology, Karolinska Hospital; ³Division of Cardiovascular-Epidemiology, Institute of Environmental Medicine, Stockholm, Sweden

10.1136/annrheumdis-2001.155

Background In patients with SLE of long duration cardiovascular disease is the most important cause of increased mortality. Valvular lesions are common in SLE patients but it has not been studied how these abnormalities relate to arterial disease in general in SLE.

Objectives To study cardiac heart and valve function in SLE patients with and without arterial disease and to compare these groups to each other and to population controls.

Methods Twenty-six women and two men (mean age 53 ± 8 years) with SLE and arterial disease (objectively verified history of myocardial infarction, angina, cerebral infarction or intermittent claudication) (SLE cases) were compared to SLE patients with no signs of arterial disease (SLE controls) and to population controls. The three groups were matched for age and gender. Echocardiography was performed on all together with a thorough clinical and laboratory evaluation.

Results 15/28 SLE cases had cardiac valvular abnormalities. Three of these had undergone valve replacement, one had a significant aortic insufficiency, and the other eleven had thickening of valvular leaflets of no measurable haemodynamic importance. Only 1/28 SLE controls and 2/28 population controls had similar valvular thickening. Among SLE cases those with valvular abnormalities had significantly higher levels of plasma homocysteine ($p < 0.0001$), orosomucoid ($p = 0.05$), plasma triglycerides ($p = 0.02$) and the cholesterol fraction of very low-density lipoproteins (VLDL) ($p = 0.01$). There was no association with antiphospholipid antibodies (antibodies to cardiolipin IgG, cardiolipin IgM, b2 glykoprotein-1 or lupus anticoagulant).

Conclusion SLE patients with arterial disease have a high prevalence of valvular abnormalities 54%. The most common abnormality is diffuse valvular thickening. In SLE patients without clinical signs of arterial disease valve abnormalities are as uncommon as in age matched population controls. Hyperhomocysteinemia and dyslipidemia, both of which have been linked to endothelial dysfunction, correlated strongly with valvular abnormalities. It is thus possible that valvular thickening in SLE patients may be a manifestation of endothelial damage, which needs further attention and prospective clinical evaluation.

FRI0121 ANTI-ENDOTHELIAL CELL AUTO-ANTIBODIES AND SOLUBLE MARKERS OF ENDOTHELIAL CELL DYSFUNCTION IN SYSTEMIC LUPUS ERYTHEMATOSUS

¹R Dupuy, ²F Resplandy, ²M Seigneur, ¹T Schaefferbeke, ³J Constans, ²MR Boisseau, ³C Conri. ¹Rheumatology; ²Haematology; ³Internal Medicine, CHU Bordeaux, Bordeaux, France

10.1136/annrheumdis-2001.156

Background In systemic lupus erythematosus (SLE), disease severity may be related to factors such as endothelial cell damage.

Objectives We tested the hypothesis that anti-endothelial cell antibodies (AECA) and plasma markers of endothelial cell dysfunction would be related to disease severity in SLE.

Methods Accordingly we measured AECA by human umbilical vein endothelial cell binding, endothelial markers von Willebrand factor, soluble thrombomodulin, soluble E-selectin by ELISA, and disease severity by SLEDAI and SLICC/ACR in 35 patients with SLE.

Results Despite high levels of IgG AECA ($p < 0.001$), compared to 21 healthy controls, we found a positive correlation only between IgG AECA and the SLEDAI index ($r = 0.393$, $p = 0.021$). We did not find elevation of soluble markers of endothelial cell dysfunction compared to healthy controls.

Conclusion We conclude that IgG AECA seem to be related to disease activity in SLE, possibly in a pathogenic rôle. Conversely, plasma markers of endothelial cell damage seem to be an epiphenomenon and may only be related to excess inflammation in these patients.

FRI0122 ANTI-RO/LA ANTIBODIES AND CUMULATIVE TISSUE DAMAGE (SLICC/ACR) IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

¹L Carreño, ¹FJ López-Longo, ²M Rodríguez-Mahou, ¹CM González, ¹AI Turrión, ¹CA Montilla, ¹M Moreno-Zazo, ¹N Caro, ¹R Del Castillo, ¹C González-Montagut, ¹L Cebrián, ¹I Monteagudo. ¹Rheumatology; ²Immunology, Hospital General Universitario, Madrid, Spain

10.1136/annrheumdis-2001.157

Background

Objectives To calculate SLICC/ACR score for a cohort of patients with systemic lupus erythematosus (SLE) and evaluate its relation with the presence of anti-ENA antibodies (U1-RNP, Sm, Ro, and La), anticardiolipin antibodies, and clinical activity at the onset of the disease.

Methods We calculated the SLICC scores of 236 patients diagnosed as SLE between 1988 and 2000. Anti-ENA antibodies were studied by ELISA in the first available serum sample of each patient. The SLE disease activity index (SLEDAI) of the first hospital study was calculated retrospectively.

Results The mean age of our patients was 39 years (SD 15.8) and the mean duration of disease was 9.7 years (SD 6.9). Eighty-nine percent of the study population were women (211 of 239). Ninety-six patients (40.7%) scored zero, 90 (38.1%) scored 1 or 2, and 50 (21.2%) scored over 2. The main disorders were renal (66; 28%), neuropsychiatric (52; 22%), musculoskeletal (36; 15.3%), and vascular (35; 14.8%). The SLICC score obtained at