PS7:142 LUPUS LOW DISEASE ACTIVITY STATE (LLDAS) DEFINITION IN A MONOCENTRIC SYSTEMIC LUPUS ERYTHEMATOSUS PATIENT COHORT AND ITS CORRELATION TO ORGAN DAMAGE

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Purpose Lupus Low Disease Activity State (LLDAS) was defined and validated in 2016 by a panel of lupus experts. When attained, it seems to be associated with prediction of clinical improvement and allow a treat-2-target (T2T) approach in clinical care. LLDAS definition was applied to the cohort of SLE patients followed at our Autoimmune Disease Unit and correlated with damage accrual.

Methods Demographic, clinical and immunological features were recorded at baseline. Data were prospectively collected from January 2013 to July 2017. At each consultation during the study period, disease activity, current therapy and fulfilment of LLDAS were registered, except for the Physician Global Assessment which was not recorded. Organ damage progression was evaluated by SLICC damage index at inclusion and at the last evaluation. Spearman´s rho test was used, with $p<0.05$ considered statistically significant (SPSS Statistics, version 23.0).

Results 76 patients were included: 93.4% females, 88.2% Caucasian, mean age and mean disease duration at inclusion 45.9 ±13.3 and 14.0±8.3 years, mean of follow-up at recruitment of 9.4±5.1 years. Overall, 1043 visits were performed. As regards LLDAS achievement, 90.8% of patients were in LLDAS at least in 25% of the time, 76.3% at least in 50%, 55.3% at least in 75%, 31.6% at least in 90% and 15.8% for the entire follow-up. At the last observation 33 patients (43.4%) were on treatment with glucocorticoids, 42.1% had their dose reduced during the study and 86,8% were under a dose of 7.5 mg daily; 8 patients were taking belimumab, 2 rituximab and 2 cyclophosphamide. Median SLICC at onset and last visit were 0 and 1, respectively, and IQR SLICC was the same (IQR, −1.5–2.5). The time in LLDAS was associated to less number of global flares (CC −0.541, $p<0.001$) but no correlation was found with organ injury (CC −0.013, $p<0.911$).

Conclusions Majority of our patients were in LLDAS during the follow-up period of 4.5 years. LLDAS was associated with less global flares, but not with reduced organ damage. Further studies are important in order to conclude if these targets could be attained more actively with T2T approaches.

PS7:143 SEVERITY ASSESSMENT OF LUPUS PATIENTS: DATA FROM THE LUPUS REGISTRY IN CRETE, GREECE

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Purpose To provide an updated, comprehensive assessment of the burden and severity of SLE manifestations at the community level.

Methods Data were retrieved from the Cretan Lupus Registry, which includes adult patients with SLE who are regularly followed in Crete. SLE is defined as mild, moderate or severe, based on the BILAG glossary of the severity of disease manifestations and the use of potent immunosuppressive drugs. Organ damage was assessed through the SLICC/ACR Damage Index [SDI].

Results A total 737 SLE patients (98% with ≥4 ACR-1997 criteria, 74% fulfilling both ACR-1997 and SLICC-2012 criteria) were included in the present analysis, with a median (interquartile range) age at diagnosis of 43 (21) years and disease duration of 8 (7) years. Regarding disease severity, 49% of the patients had mild, 32% moderate and 19% severe lupus. Within the severe cases, most frequently afflicted systems were the haematological (4.6%), renal (3.6%), cardiovascular system (2.8%), and neurological (2.3%). Mycophenolate was administered in 0%, 2.7% and 8.5%, and rituximab in 0%, 7.1% and 15.3% of patients with mild, moderate and severe disease, respectively ($p<0.01$ for both). Disease severity did not differ according to age of SLE diagnosis (before or after 50 years), whereas female predominance was more pronounced in mild cases (31:1) as compared to moderate (12:1) or severe (5:1) ($p<0.001$). Notably, more severe disease correlated with shorter time interval from symptoms onset to SLE diagnosis (delay >12 months: 56% in mild, 39% in moderate, 27% in severe, $p<0.001$). Unemployment and smoking status (n=399 patients) tended to be higher in the moderate/severe group (54% versus 44% and 34% versus 28%, respectively). Regression analysis showed that moderate/severe as compared to mild disease is strongly associated (odds ratio 2.5, $p<0.001$) with organ damage accrual (SDI>0).

Conclusions At the community level, more than half of SLE patients present with moderate or severe manifestations which may contribute to irreversible organ damage.

PS7:144 APPLICATION OF THE DORIS ALGORITHM FOR THE DEFINITION OF DISEASE REMISSION OVER A 2-YEAR PERIOD IN A COHORT OF ITALIAN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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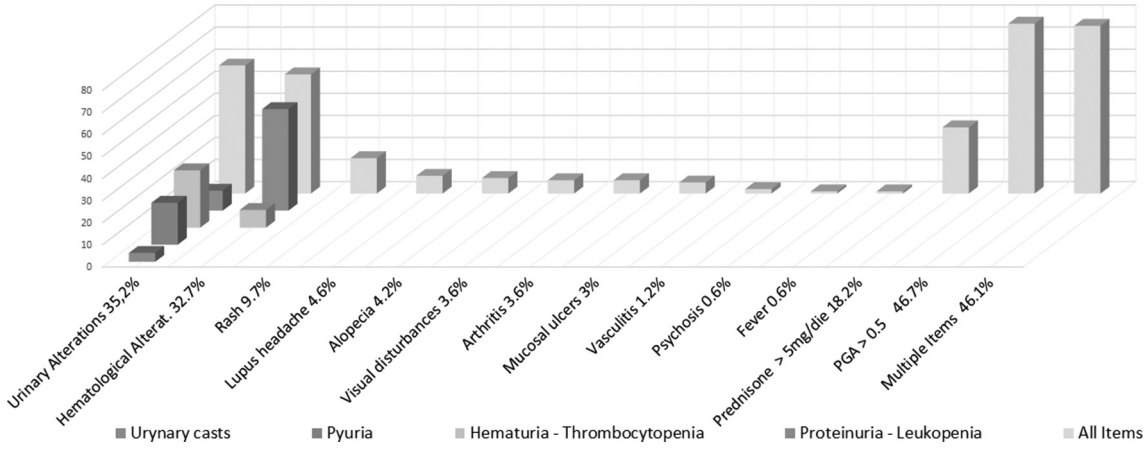
Objective Systemic Lupus Erythematosus (SLE) is characterised by a fluctuating course.To achieve sustained remission is the goal of maintenance treatment. In 2014, an international Task Force named DORIS proposed four definitions of remission. Aim of this study was to evaluate the performance of the DORIS algorithm in comparison to the remission status as defined by clinical judgement.

Methods Monocentric retrospective study. Among all SLE patients followed at the Lupus Clinic between 2014 and 2016, we enrolled patients fulfilling the SLICC 2012 criteria who were visited at least once in 2016 and who had at least 5 biannual medical examinations in the previous 2 years. Remission according to DORIS was defined as a clinical-SLEDAI (cSLEDAI) score equal to zero and Physician Global Assessment (PGA)<0.5. Remission Off treatment: corticosteroids and immunosuppressant-free patients with antimalarials allowed; Remission On treatment: antimalarials and/or daily



Abstract PS7:144 Figure 1

dose of corticosteroids<5 mg and/or immunosuppressants and/or biologics drugs.'Clinical' remission was defined as the absence of any increase in corticosteroids dosage or any change in immunosuppressants.

Results 85SLE patients were enrolled (95% female). 21% of patients were in remission in all the 5 time-points, 23% never got into remission. 55% of patients satisfied DORIS criteria at least in one time-point. Mean duration of DORIS remission was 9 months.In 169 (40%) visits there was a disagreement between DORIS and Clinical definition of Remission: a) in 2% remission according to DORIS but no clinical remission; b) 98% clinical remission but not according to DORIS.

The reasons for discordant results were: a) self-management of steroids dosage and precautionary increase of steroids in the suspect of a flare; b) cSLEDAI >0 in 74%,PGA >0.5 in 47%,daily prednisone >5 mg in 18%.The cSLEDAI items that most contributed to the score were urinary and haematological alterations (figure 1).In 30 visits (16 patients) a clinical definition of remission was given despite a daily prednisone dose higher than 5 mg.

Conclusion Nearly 40% of the visits displayed a disagreement between 'clinical' and DORIS remission.This may be attributable mainly to a different approach in evaluating patients: longitudinal in clinical remission and cross-sectional by DORIS. As compared to 'clinical' remission, DORIS definition:

- may fail to recognise patients with a chronic stable steroid treatment at medium dosage, due to persistent low disease activity;
- is less sensitive because of PGA being used as a dichotomous variable with a low threshold;
- is likely to be scored different than zero because of urinary and haematological alterations.

PS7:145 IL-34, NOT CSF-1, SIMILARLY MEDIATES RHEUMATOID AND LUPUS ARTHRITIS IN PATIENTS

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While Myeloid cells are abundant in lupus arthritis (LA) and rheumatoid arthritis (RA), based on clinical presentation LA and RA are considered distinct diseases. Although inflammatory arthritis is common in patients with lupus, the pivotal mechanisms leading to joint damage have not been investigated. We tested the hypothesis that IL-34, but not CSF-1, is a predictive biomarker that is integral in perpetuating synovial destructive inflammation in both LA and RA. We report the novel findings that:

i. using longitudinally tracked patients, IL–34, not CSF–1, is a clinical predictive biomarker for both LA and RA; and
ii. IL–34 is more robustly expressed in the synovial tissue, cells and fluid compared to CSF–1 in both LA and RA.

Probing into the IL-34 dependent mechanisms *in vitro* we find that:

i. IL–34 promotes synovial hyperplasia more robustly than CSF–1, and increases chemokines that recruit neutrophils and monocytes (Mo) into the synovium in LA and RA;
ii. Mo and neutrophils stimulated by IL–34, via cell contact and/or released mediators, such as ROS, destroy synovial cells;
iii. signalling via the two IL–34 receptors, cFMS and protein–tyrosine phosphatase (PTPRZ), promote IL–34 and CSF–1 mediated synovial cell hyperplasia and cytotoxicity.

Taken together, IL-34-dependent mechanisms are pivotal and similar in mediating LA and RA. Moreover, tracking serum IL-34 is a reliable biomarker for managing the individualised treatment of patients with both LA and RA.

PS7:146 INVESTIGATION OF CHRONIC ORGAN DAMAGE AND DISEASE OUTCOME IN HUNGARIAN LUPUS PATIENTS

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Introduction/objectives Long-term survival of patients with systemic lupus erythematosus (SLE) improved worldwide, thus prevention of cumulative organ damage became a major goal in disease management. The aim of our study was to investigate the chronic organ damages and their influence on disease outcome in SLE.

Method We evaluated clinical conditions, laboratory findings and medications of 357 consecutive SLE patients, and assessed