Background Over the last few years the importance of treating patients with SLE towards achieving either Remission or LDAS (Treat-to-Target approach) has become evident. We have now aimed at determining the beneficial effects of achieving these states in lupus patients from a multi-ethnic, multicenter lupus cohort (LUMINA for Lupus in Minorities: Nature vs Nurture).

Methods The LUMINA cohort was started in 1993 and up to 2009 recruited nearly 600 patients of either Caucasian, African or Hispanic ancestry, at three institutions: Alabama, Texas and Puerto Rico. Visits were performed every 6 months for the first year and yearly thereafter. Socioeconomic, demographic and clinical data were obtained at all visits. Disease activity was ascertained with the Systemic Lupus Activity Measure (SLAM) and disease damage with the SLICC Damage Index (SDI). We have now examined all patients’ visits and classified them as corresponding to Remission (SLAM score=0 and Prednisone≤5 mg/day and no immunosuppressants), LDAS (SLAM score ≤3, prednisone <7.5 mg/day, no immunosuppressants) or neither: active. Because of the relatively small number of visits corresponding to Remission, Remission and LDAS visits were examined as a single variable. The association between the last SDI and the percent of time on Remission/LDAS was modeled using Poisson regression with adjustment for variables known to affect this outcome (age, gender, ethnic/racial group, baseline disease activity and disease damage). In a separate multivariable regression model, mortality, adjusting for variables known to affect this outcome, was the endpoint.

Results Visits for 538 patients (total number of visits: 3979; median number of visits per patient: 6.8, interquartile range 4–6) were examined. The longer patients were on Remission/LDAS, the less likely they were to accrue damage [Parameter estimate −1.049 (Wald 95% CI −1.3875 to −0.7043), p<0.001]. In terms of mortality the direction of the association was as expected (protective) but statistical significance was not reached [Parameter estimate −1.1932 (Wald 95% CI 0.8003 to 2.2228), p=0.1360].

Conclusions The longer lupus patients are in remission/LDAS, the less likely they are to accrue damage. Other significant variables in this analysis, were, as expected, associated with damage (older age, male gender, not being from Puerto Rico, higher disease activity at baseline and higher damage at the baseline visit). Although the direction of the association in terms of mortality was as expected, statistical significance was not reached. These data have implications for the management of patients with lupus regardless of their ethnic/racial background.

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