Atopy in children with juvenile systemic lupus erythematosus is associated with severe disease

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Background and Aims We aimed to assess the influence of co-existing atopy on the prognosis of juvenile systemic lupus erythematosus (JSLE)

Methods Patients diagnosed with JSLE between October 2005 and April 2016 were enrolled in a prospective cohort study and followed for 2 years. Management of patients was evaluated using SLEDAI-2K score. Eighty JSLE patients were enrolled at diagnosis and were divided into those with atopy and those without.

Results Atopic patients had significantly higher SLEDAI-2K at disease onset (16.09 vs. 11.18), higher anti-double-stranded DNA (66.58 vs. 44.55 IU/mL), higher erythrocyte sedimentation rate (52.89 vs. 38.27 mm/h), higher percentage of total B-cells (25.85 vs. 19.51%), lower percentage (7.26 vs. 9.03%) and activity (9.92 vs. 11.32%) of natural killer cells, lower complement C3 (0.51 vs. 0.69g/L), and lower complement C4 (0.69% vs. 19.51%). Of the 29 lupus patients, 13 charts were retrieved. The study group was divided into active (with ongoing disease activity) and inactive (no disease activity) subgroups based on SLE disease activity index (SLEDAI) scores. The sRANKL ligand levels were measured at enrollment using an enzyme-linked immunosorbent assay (sRANKL – ELISA MyBioSource®, USA).

Results Thirty-one children (12 boys) with a mean age of 13.4 ±3.2 years were included. The median (interquartile range) sRANKL level of the cohort was 52.3 (24.1, 66.4) pg/mL. Serum RANKL levels were not significantly different in active and inactive disease subgroups [median (interquartile range): 55.2 (21.3, 66.4) pg/mL versus 53.3 (29.3, 64.9) pg/mL, respectively (p=0.89)]. There was no statistically significant correlation between sRANKL levels and SLEDAI scores, Spearman correlation coefficient rho=0.083, p=0.65.

Conclusions There was no significant difference in sRANKL levels between the inactive and active disease group. Also there appears no correlation between sRANKL level and SLEDAI scores.