Adaptive immunity (T cells and B cells) in rheumatic diseases

 Methods: Proportions of T cell subsets were analysed in peripheral blood from 70 uERA DMARD and prednisolone naïve patients with untreated early Rheumatoid arthritis (50 females and 20 males) and in 31 healthy age-matched controls. Broad analysis of helper and regulatory CD4+ T cell subsets was done using flow cytometry. Disease activity in patients was assessed using DAS28, CDAI, swollen joint counts, tender joint counts, CRP and ESR.

 Results: Multivariate factor analyses showed that male and female untreated early rheumatoid arthritis patients display distinct profiles of association between disease activity and circulating T cell subset proportions. In male, but not female uERA patients Th2 cells showed a positive association with disease activity and correlated significantly with DAS28-ESR, CDAI and tender joint counts. Likewise, proportions of non-regulatory CTLA-4+ T cells associated positively with disease activity in male patients only, and correlated with DAS28-ESR. In contrast, there was a negative relation between Th1Th17 subset proportions and disease activity in males only. Proportion of Th1 and Th17 cells showed a relation to disease activity in either male or females. There were no significant differences in proportions of T cell subsets between the sexes in patients with untreated early rheumatoid arthritis.

Conclusions: In conclusion, our findings show sex-based differences in the association between T cell subsets and disease activity in uERA patients, and that Th2 helper T cells may have a stronger role in the regulation of disease activity in male patients.

REFERENCE:
