A22 NAÏVE T CELLS PREDICT MTX INDUCED REMISSION IN EARLY ARTHRITIS

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Background We previously reported that immunological parameters can predict 6 month response to treatment in early rheumatoid arthritis independently of the drug received. Normal naïve CD4 T cells frequency, notably predicted patient ability to achieve remission. The aim of the current study is to determine whether T cell subset analysis (within 4 h of blood collection) can predict remission and/or lack of response to methotrexate (MTX) followed by MTX-escalation and/or addition of other disease-modifying antirheumatic drugs (DMARDs) with the aim of inducing remission (treat to target concept).

Methods 28 patients with <12 months EIA were recruited and treated with initial MTX-protocol. Clinical response was evaluated using DAS28 at 6 and 12 months. Symptom duration, C reactive protein (CRP), rheumatoid factor (RF), anti-citrullinated peptide antibody (ACPA), disease activity score 28 (DAS28) were recorded. 6 colour flow cytometry was performed using standard protocols. Another 31 patients with similar characteristics were randomized to treatment with MTX+TNF-inhibitor (TNF-i)

Results 14/28 patients (50%) achieved remission (DAS28<2.6) when treated under the MTX 'treat to target' protocol at both 6 and 12 months. 7patients (25%) showed no response (<1.2 improvement of DAS28) at 6 months and 8 (28%) at 12 months. CRP, symptom duration, RF or ACPA were not associated with either induction of remission or no-response. The only predictor of remission at 6 month was higher naïve T-cell frequency

at baseline (p<0.0001) with trends (p=0.150) at 12 months for both naïve T cells and DAS28. Lack of response (<1.2 reduction of DAS28) at 6 months was associated with baseline higher DAS28 (p=0.048) and higher IRC (p=0.050) but with no predictor at 12 months.

Responses from the 31 patients in the TNF-I group were: 14 (45%) patients achieved remission at 6 months and 18 (58%) at 12 months Only one patients did not respond at 6 months but 4 (13%) at 12 months. No single predictor of remission or lack of response could be found in this group.

Six patients in this TNF-i group combined the lack of response to MTX-prognostic factors (IRC>3% and DAS28>4 at baseline. Only one achieved remission at 6 months.

Seven patients treated with TNF-i lacked the good MTX-prognostic factors (naïve T cell<35% and DAS28<4): 3 achieved remission at 6 months and 4 (57%) at 12 months.

Conclusion These data are preliminary however they suggested that, in patients that lack good MTX-prognostic factors, the use of TNF-inhibitor may improve remission rate. They further confirmed previous findings and suggest that transferring flow cytometry protocols from a research lab to routine hospital service may be useful.