FRI0504 APREMILAST EXPANDS IL-10-PRODUCING REGULATORY B CELLS, AND DECREASES TH1 AND TH7 CELLS IN PSORIATIC ARTHRITIS AND PSORIASIS

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Background: IL-10-producing regulatory B cells (Bregs), also known as B10 cells, are decreased and inversely correlate with IFN-γ- and IL-17-producing NK and T cells in patients with psoriatic arthritis (PsA) and psoriasis (Ps) (1–3)
Objectives: To assess whether or not apremilast, a PDE4 inhibitor recently approved for the treatment of Ps and PsA, is able to induce IL-10-producing B cells and decrease Th1 cells and Th17 cells in vivo
Methods: PBMCs and magnetically purified B cells were isolated from 21 patients (7 PsA, all responders; 14 Ps, 9 responders) at baseline and post-apremilast treatment (at 3 and 6 months in responders; at 3 months in non–responders, as they switched to biologicals). Phenotypic analysis of CD3, CD19, CD24, CD27, CD38 and intracellular expression of cytoplasmic IL-10, IFN-γ, IL-17 after bacterial CpG (ODN2006) and PMA/ionomycin stimulation was examined by flow cytometry
Results: At 6 months, apremilast significantly increased IL-10-producing Bregs (IL-10+CD19+, B10 cells) compared to baseline and 3 months. B10 cells increase was confined mainly to the transitional Bregs (CD19+CD24highCD38high) rather than memory Bregs (CD19+CD27+CD24high). IFNγ+CD3+ (Th1) and IL-17+CD3+ (Th17) T cells were significantly decreased at 3 and 6 months ($p<0.05$, for both). There was an inverse correlation between percentages of B10 cells and IFN-γ-producing CD3+ cells. The percentage of B10 cells were not changed post-treatemnt in non-responders.
Conclusions: Our data suggest that apremilast may exert its therapeutic effect through the expansion of IL-10-producing Bregs and the decrease of IFN-γ- and/or IL-17-producing T cells
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FRI0505 RESIDUAL DISEASE ACTIVITY IN PSORIATIC ARTHRITIS TRIGGERS TREATMENT ADJUSTMENT IN ONLY A QUARTER OF PATIENTS IN DAILY CLINICAL PRACTICE

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Background: With expanding therapeutic possibilities for the treatment of psoriatic arthritis (PsA) it will be increasingly important to determine residual disease and define when to adjust treatment. The rationale behind treatment decisions in current daily clinical practice and the relation with residual disease activity has not been reported in literature.
Objectives: To assess the current clinical practice on defining residual disease and the subsequent treatment decisions made in PsA patients.
Methods: This cross sectional study included 142 consecutive PsA patients who visited the outpatient clinic. The treating rheumatologist scored disease activity and his opinion on the presence of residual disease and the subsequent treatment decisions made. Patients scored patient disease activity scores.
Results: Of the 142 patients, 52 patients were considered without residual disease by the treating rheumatologist. These patients indeed show low disease activity on all measured domains, and all patients were considered in remission or low disease activity according to CDAI composite score.
90 of the 142 patients were considered to have residual active disease by their treating rheumatologist. Disease activity was present across all measured domains and 48/90 patients were considered in moderate (39) or high (9) disease activity defined by CDAI. There were no differences between the groups with or without residual disease activity in gender, disease duration, comorbidity, current treatment duration or number of previously used cDMARDS. Residual disease activity was more frequently reported in patients treated with a cDMARD only or a 2nd TNFi.
Of the 90 patients with residual disease, in 21 (23%) treatment adjustment was initiated. Treatment adjustments consisted of: addition or adjustment of analgesic treatment in 6 pts (29%); local or intramuscular corticosteroid therapy in 5 pts (24%); switch of cDMARD to another cDMARD in 4 pts (19%); referral to a paramedic in 2 pts (10%); switch to a 2nd or 3rd TNFi in a patient already using TNFi treatment in 2pts (10%); addition of a cDMARD to current TNFi 1 pt (5%); and start of a TNFi with current use of cDMARD only in 1pt (5%). Treatment changes were considered less frequent in those patients treated with a 2nd TNFi. No differences were seen in disease activity and demographics between those with or without a treatment adjustment.
Reasons not to adjust therapy mostly reported were: complaints were seen as only minor (39/69, 57%). The most frequent other reasons reported were: it was the patients' preference not to adjust medication (10/69, 14%); "we have no other options left" (5/69, 7%); lack of compliance (due to side effects) (5/69, 7%).
Conclusions: Residual disease resulted in treatment adjustment in only a quarter of patients. Not adjusting treatment could not be explained by comorbidities, or a lack of treatment options in a majority of the patients. Our data indicate that future implementation of a treat-to-target approach in PsA does not only require a data-driven consensus on the optimal target to use but also active coaching of physicians and patients to promote treatment adjustments in clinical practice.
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FRI0506 HLA PROFILES AND THEIR ASSOCIATIONS WITH DISEASE PHENOTYPES IN A CANADIAN PSORIATIC ARTHRITIS (PSA) COHORT

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Background: PSA is a chronic disease with known genetic predisposition that affects 0.3% to 1% of the general population.Certain HLA allelles were reported to be more predominant in PSA and to be associated with certain manifestations.
Objectives: To determine HLA alleles prevalence in PSA patients and their association with clinical features and the severity of PSA in these patients
Methods: Two cohorts of early (established PSA)were followed prospectively.Clinical and laboratory data were collected at 6 months intervals, included PASI scores, nail involvement, joint counts, patient reported outcomes, comorbidities, inflammatory parameters and HLA Class I typing. Statistics utilized IBM SPSS v.23. Frequencies,means,medians and 2-tailed Pearson correlation were calculated.As the majority of our patients have Irish ancestry,we utilized HLA prevalence from an Irish population based data
Results: The cohorts included 265 patients. Of those, one hundred thirty five patients had their HLA analysis done. Fifty one percent of the patients were male, the mean age at onset of PSA 43.07 (19–76) years. Mean age of PSO diagnosis was 33.47 years. Sixty four percent had polyarticular involvement at base line and 17% had documented axial involvement.
Forty two haplotypes were reported in our cohort of those: HLA B27 was present in 33% of the patients (as compared to 6.77% in an Irish control population). HLAA1 was present in 31%, B8 in 21%,B57 in 6.6%B44 in 24.5%, B51 in 10%B58 in 5.6%, HLA B62 in 7%, HLA Bw4 in 43.6%and Bw6 in 46.5%.
The following associations were found to be significant: HLAB49 was negatively associated with age of onset of PSA with a Pearson correlation of -0.610 (P 0.007), also, HLA A23 had a correlation of -0.232 (P 0.016)
B44 was associated with increased total number of comorbidities, Pearson correlation was 0.332 (P 0.0001)
HLA B22 was associated with more severe PASI score with a correlation of 0.488 (P 0.000)
Of note that the only case in the cohort with Crohn's disease had HLA B12 which was previously reported in spondylitis
135 patients were studied,51% were male. The mean age of PSA onset was 43.07 yearsand 33.4 for PSO. 64% had polyarticular disease while 17% had axial involvement. 42 alleles were studied, of those, HLA B27 was present in 33% of patients (vs.6.77% controls) HLAA1 in 31%, B8 in 21%,B57 in 6.6%,B44 in 24.5%,B51 in 10%,B58 in 5.6%, HLA B62 in 7%, HLA Bw4 in43.6%, Bw6 in 46.5%. The following associations were significant: HLAB49& HLA A23 were associated with age of onset of PSA (correlation of -0.610 (P.007) and -0.232 (P.016) respectively. HLA B44 was associated with increased number of comorbidities (correlation 0.332 (P.0001),HLA B22 was associated with severe PASI score (correlation of 0.488 (P.000).The only case in our cohort with Crohn's disease had HLA B12 (previously reported in spondylitis)
Conclusions: The majority of patients had polyarticular involvement.HLABw6 and HLA Bw4 were the most frequent allelles. We found high percentage of patients with HLAB27, HLAA1 vs controls.HLA B27 prevalence was higher in patients with axial involvement but it did not reach significance in our cohort.HLA B44 was strongly associated with increased comorbidities (previous reports suggested protective effect of this allelle).HLA B22 was associated with more severe PASI scores.
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