

Background: Biologic therapies have revolutionised therapy in inflammatory diseases such as psoriatic arthritis (PsA), driving major improvements in outcomes. Th17 cells appear to play a key role in the pathogenesis of PsA, and IL-17 can trigger the release of chemoattractants such as CXCL8 and CCL20, leading to the further infiltration of other immune cells including neutrophils. Infiltrating activated neutrophils can themselves generate a range of chemoattractants which may amplify and sustain the inflammatory response. Therapeutic targeting of IL-17 with biologics such as secukinumab offers great benefit in PsA by blocking this inflammatory cycle: however the interaction of this agent with neutrophils, key components of host defence as well as potential mediators of this disease, is not known.

Objectives: This study aimed to measure key aspects of neutrophil function to determine: a) changes in the functions of circulating neutrophils in PsA patients pre-therapy, compared to age- and sex-matched healthy controls and b) if these functions changed in PsA patients 12-weeks post-secukinumab therapy.

Methods: Neutrophils were isolated from venous blood of 16 PsA patients and 10 healthy controls. Key neutrophil functions were measured at baseline and 12 weeks: reactive oxygen species (ROS) production, apoptosis (+/- TNF and GM-CSF), phagocytosis, receptor expression and chemotaxis. Changes in gene expression pre- and 12-weeks post-therapy (n=5 PsA) were measured using RNAseq.

Results: PsARC response was observed in 70.6% of participants on secukinumab therapy at 12 weeks. There were no significant differences in ROS production, phagocytosis or chemotaxis in PsA patients at baseline (compared to healthy controls) or during therapy. Chemotaxis towards IL-8 in PsA patients at baseline was decreased compared to that of healthy controls, but this difference did not reach statistical significance. Surface levels of activation markers CD11b/CD18 and CD63 were increased in PsA patients at 12-weeks compared to baseline, while surface levels of CD16 decreased. RNA-seq analysis indicated down-regulation of pathways mediated by IL-17A, oncostatin M, TWEAK (TNFSF12) and CCL2 during therapy, but up-regulated expression of pathways involving *de novo* protein biosynthesis.

Conclusion: Therapy with secukinumab in PsA did not significantly affect neutrophil host defence functions. The changes that were seen in circulating neutrophils indicate selective up- and down-regulation of functions that may reflect potential alterations in local or systemic cytokines, and/or an increase in the circulating pool of activated neutrophils that are no longer recruited into sites of inflammation because of the down-regulation of the local IL-17/CXCL8 signalling network.

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AB0116

DECREASED SERUM LEVEL OF IRISIN IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Irisin, exercise-mediated myokine, is one of the most recently discovered hormones. Irisin has been shown to play multifunctional roles including anti-inflammation by suppressing secretion of NF- κ B, TNF- α , IL-6, and other pro-inflammatory cytokines from macrophages and adipocytes [1]. Thus, several attempts have been made to investigate irisin in chronic inflammatory rheumatic diseases. And recent evidences show that serum irisin concentration is lower in patients with osteoarthritis, rheumatoid arthritis, and behcet disease than healthy individuals [2-4]. Furthermore, one study showed that serum irisin level was negatively correlated with radiographic severity of knee osteoarthritis [2]. However, no previous study has investigated irisin in patients with ankylosing spondylitis (AS).

Objectives: To assess the serum level of irisin, and evaluate the possible relationship of irisin with disease activity in patients with AS.

Methods: Male patients with AS fulfilled the modified New York criteria (n=119), and healthy male controls (n=30) were enrolled. Serum irisin level was measured by ELISA (Cusabio, CSB-EQ027943HU). Disease activity was assessed by acute phase reactants, Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI), and modified Stoke Ankylosing Spondylitis Spinal Score (mSASSS). Clinical characteristics

and serum irisin level of the AS group were compared with those of the control group using Student t-test for normally distributed continuous measures and Mann-Whitney U test for non-normally distributed continuous measures. To evaluate the correlations of serum Irisin level and AS disease activity, Spearman's correlation test was used. AS patients were grouped into the high BASDAI group (BASDAI ≥ 4 , n=45) and the Low BASDAI group (BASDAI < 4 , n=74). And serum irisin level was also compared between two groups.

Results: AS group had lower serum irisin concentration compared with healthy control group (60.50 [23.68-131.15] vs. 124.69 [79.58-192.90], p=0.013), while age and body mass index were not significantly different between groups. There was no significant correlation between irisin level and disease activities. However, High BASDAI group showed significantly lower irisin level than low BASDAI group (44.64 [18.13-85.89] vs. 65.68 [31.81-165.31], p=0.011).

Conclusion: AS patients have lower serum irisin concentrations than healthy controls. AS patients with severe symptoms tend to have lower serum level of irisin than those with less severe symptoms.

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AB0117

HLA B27*SUBTYPES FREQUENCIES IN COLOMBIAN PATIENTS WITH SPONDYLOARTHRITIS AND HEALTHY SUBJECTS TYPED IN HIGH-RESOLUTION TECHNIQUE

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Background: HLA-B*27 has been identified as a susceptibility and prognostic factor associated to axial spondyloarthritis. HLA-B*27 allele has been described to be present in about 90% of patients with ankylosing spondylitis, and with a different frequency in patients with other subtypes of SpA. In contrast, this allele has been observed to be present only in 7-8% in general population. A remarkable heterogeneity in HLA-B*27 alleles has been reported. They have been determined at DNA sequence and some subtypes have been associated increasing the risk to develop the disease

Objectives: To establish the frequencies of HLA-B27 subtypes in a group of Colombian patients with SpA and healthy population

Methods: In total, 61 Blood samples from Colombian mestizo individuals with SpA according to ASAS classification-criteria were evaluated by Sequencing Technology: Illumina Sequencing/PacBio Sequencing with analysis of the second and third exon. Results reported with six digits (including null alleles). In total, 294 results of peripheral blood from healthy individuals without joint symptoms were analyzed. Frequencies were obtained for demographic and genetic variables. Ethic Committee approval code 2018-020/2017-023

Results: The SpA group had a mean age of 45.88 \pm 11.67, 62.3% of them were male, 6.6% reported current smoking and 37.7% reported smoking sometime in life. In total, 67.2% had inflammatory back pain, 14.8% had dactylitis, 63.9% enthesitis and 57.4% arthritis. Thirty patients were HLA-B*27 positive with a genotypic frequency of 50.8% and an allelic frequency of 24.6%. In this group of patients, the mean age was 43.5 \pm 11.8, 76.6% were male, 86.7% of them were subtype B*27:05:02g and 13.3% presented the B27:02:01g. None of the SpA patients had both B*27 alleles.

On the other hand, the healthy individuals were men in 51.0% and the mean age was 37 \pm 15.4 years. Ten subjects were positive for the HLA-B*27 allele with a genotypic frequency of 3.4% and an allelic frequency of 1.7%. In this group of individuals 50.0% were male gender with a mean age of 38.4 \pm 17.9. No individuals were found to have the two alleles or homozygous for the B*27 allele. In all of them the subtype B*27:05:02g was observed in high-resolution sequencing