

# METABOLIC SYNDROME AND CHRONIC INFLAMMATION AFFECT LEVELS OF ANGIOPOIETIN-LIKE PROTEINS TYPES 2 AND 3 IN PATIENTS WITH PSORIATIC ARTHRITIS

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**Relevance.** Psoriatic arthritis (PsA) is associated with multiple comorbid conditions.

**Purpose of the study:** to evaluate the possibility of using angiopoietin-like proteins (ANGPTL) types 2 and 3 as predictors of progression of psoriatic arthritis and comorbid conditions.

## Materials and Methods.

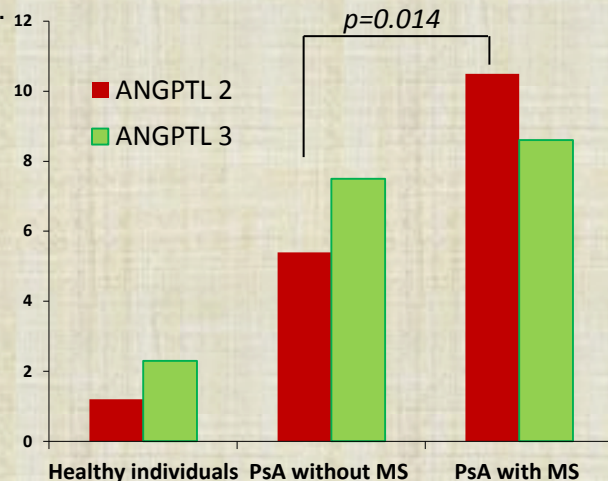
Thirty PsA patients aged 38 to 68 years (women, 83.3%; duration of disease,  $10.47 \pm 6.02$  years) and 33 healthy donors aged 24 to 58 years (women, 75.8%) were included in the study. An enzyme-linked immunosorbent assay (ELISA) was used to examine serum concentrations of ANGPTL types 2 and 3.

## Results and Discussion.

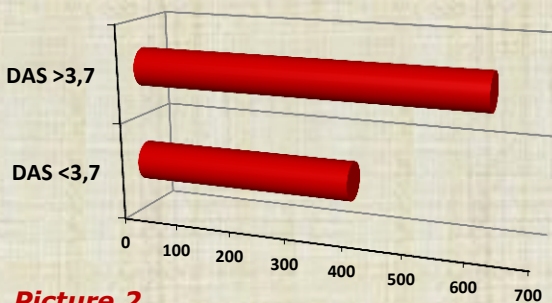
Metabolic syndrome (MS) in PsA patients was determined by the National Cholesterol Education Program's Adult Treatment Panel III criteria.

ANGPTL 2 and 3 levels were significantly higher in patients with PsA than in healthy individuals ( $p < 0.05$ ). In PsA patients with MS ( $n=11$ ; 36.7%), ANGPTL 2 levels ( $10.46 \pm 6.94$  ng/mL) were significantly different from PsA patients without MS ( $n=19$ ;  $5.38 \pm 3.77$  ng/mL;  $p=0.014$ ) (Picture 1).

There was a correlation between ANGPTL2 levels and body mass index ( $r=0.43$ ,  $p=0.011$ ), serum cholesterol levels ( $r=0.31$ ,  $p=0.02$ ) and systolic blood pressure parameters ( $r=0.29$ ,  $p=0.042$ ).



**Picture 1.** ANGPTL 2 and 3 levels in patients with PsA



**Picture 2.** ANGPTL 3 with different PsA activity

ANGPTL3 was considered as positive in 17 (56.7%) patients with PsA ( $>3SD$  of healthy subjects; range 454-810 ng/ml), the result was negative in 13 (43.3%) (range 253-419 ng/ml).

There were statistically significant differences in ANGPTL3 content in PsA patients with high disease activity ( $n=12$ ,  $DAS>3.7$ ) compared with low/moderate disease activity ( $n=18$ ,  $DAS\leq 3.7$ ;  $p<0.001$ ) (Picture 2).

## Conclusions.

The serum levels of ANGPTL2 in patients with PsA depend on the presence of metabolic syndrome, which may indicate its potential role in the pathogenesis of PsA. ANGPTL3 can qualify for the role of a diagnostic marker of PsA activity.