

WORLD CONGRESS  
ON OSTEOPOROSIS,  
OSTEOARTHRITIS AND  
MUSCULOSKELETAL  
DISEASES

# VIRTUAL CONGRESS

August 26-28, 2021



2021 VIRTUAL



[VIRTUAL.WCO-IOF-ESCEO.org](https://VIRTUAL.WCO-IOF-ESCEO.org)

AbstractBook

dol 2 µg, normal level of calcium and phosphorus were achieved in the serum without hypercalciuria, as well as normalization of PTH level. We also plan to withdraw anticonvulsant therapy.

**Conclusion:** This case illustrates the clinical, biochemical and genetic challenges in the diagnosis of the PHP that should be considered in the diagnostic investigation of patients with hypocalcaemia and seizures.

P695

### EFFECT OF ANGIOPOIETIN-LIKE PROTEIN TYPE 4 ON OSTEOPOROTIC DISORDERS IN RHEUMATOID ARTHRITIS PATIENTS WITH METABOLIC SYNDROME

V. A. Aleksandrov<sup>1</sup>, A. V. Aleksandrov<sup>2</sup>, L. N. Shilova<sup>1</sup>, G. Y. Osmano<sup>2</sup>, N. V. Aleksandrova<sup>2</sup>

<sup>1</sup>Volgograd State Medical University, Dept. of Hospital Therapy, <sup>2</sup>Research Institute of Clinical & Experimental Rheumatology A.B. Zborovsky, Volgograd, Russia

**Objective:** To evaluate the potential role of angiotensin-like protein type 4 (ANGPTL4) on the risk of osteoporotic disorders in patients with rheumatoid arthritis (RA) and metabolic syndrome (MS).

**Methods:** 88 patients with reliable RA were included in the study. Determination of ANGPTL4 in serum was performed by enzyme immunoassay using a commercially available RayBio Human ANGPTL4 ELISA Kit test system (RayBiotech, USA). The presence of MS in RA patients was established using the criteria of the National Educational Program on Cholesterol (NCEP/ATPIII 2004) and the International Diabetes Federation (IDF). All RA patients underwent osteodensitometry (Lunar DPX, GE, USA) with estimation of bone tissue condition according to T-criterion.

**Results:** ANGPTL4 values in RA patients correlated with age of RA onset ( $r=-0.658$ ,  $p<0.001$ ), DAS-28 disease activity ( $r=0.449$ ,  $p=0.001$ ), C-reactive protein level ( $r=0.488$ ,  $p=0.003$ ), ESR ( $r=0.458$ ,  $p=0.002$ ), serum vitamin D ( $r=-0.417$ ), urinary calcium ( $r=0.797$ ,  $p=0.032$ ), triglycerides ( $r=0.42$ ,  $p=0.018$ ), and the presence of insulin resistance (by HOMA-IR index) ( $p=0.033$ ) and osteopenia ( $r=0.439$ ). Significantly high levels of ANGPTL4 ( $p=0.027$  compared with RA without MS) and low indices of BMD ( $p=0.03$  compared with RA without MS) were observed in RA patients with metabolic syndrome (MS) ( $n=36$ ).

Multivariate analysis of variance revealed a significant increase in ANGPTL4 in the serum of RA patients with reduced BMD ( $p=0.007$ ) and marked metabolic changes ( $p<0.001$ ). These factors and their interactions can explain a significant proportion of the variability in ANGPTL4 ( $R^2=0.32$ ,  $p<0.05$ ).

**Conclusion:** Direct involvement of ANGPTL4 in the mechanisms of osteoporosis development in RA patients is possible, including effects on osteoclast differentiation and activation processes, which may lead to decreased periarticular BMD and increased risk of low energy fractures.

P696

### CERVICAL SPINE INVOLVEMENT IN RHEUMATOID ARTHRITIS AND ANTI-CITRULLINATED PROTEIN ANTI BODIES

N. Bahaz<sup>1</sup>, F. Mechid<sup>1</sup>, C. Dahou-Makhloufi<sup>1</sup>, A. Ladjouze<sup>2</sup>, S. Lefkir-Tafiani<sup>3</sup>, A. Abi Ayad<sup>4</sup>

<sup>1</sup>Rheumatology department, Mohamed Lamine Debaghine hospital. Algiers, Algeria, Algiers, Algeria, <sup>2</sup>Dept. of rheumatology, Ben Aknoun hospital Algiers, Algeria, Algiers, Algeria, <sup>3</sup>Rheumatology department, Beni Messous hospital, Algiers, Algeria, <sup>4</sup>Rheumatology department, Ain Naadja hospital, Algiers, Algeria

**Objective:** To study a relationship between cervical spine involvement and anti citrullinated protein antibodies (ACPA) in rheumatoid arthritis.

**Methods:** We conducted a multicenter, prospective, descriptive, cross-sectional study in 300 patients with rheumatoid arthritis between 2013-2018. We collected demographic, clinical (Body mass index (BMI), disease duration, DAS28, HAQ), biological (CRP, ESR, the rheumatoid factor, ACPA) and radiological data. We study the relationship between cervical spine involvement (CSI) and ACPA

**Results:** 80, 3% were female), the mean age was 51,  $17\pm 12,68$  years, the BMI was  $26,11\pm 5,25$ , 67, 66 % had comorbidities, the most frequent were osteoporosis (30%), obesity (24%), hypertension (21,7%). RA mean duration was  $13\pm 9$  years, mean DAS 28 was  $4,68\pm 1,5$  mean HAQ was  $1,01\pm 0,69$ , mean CRP was  $15,50\pm 12$  mg/L, mean ESR was  $41,89\pm 26,8$ mm, rheumatoid factor was positive in 70,6% and ACPA were positives in 77,3%. The standard x-rays of cervical spine found 53 (17, 66%) patients with CSI The various lesions of the cervical spine were atlantoaxial subluxations 13%, 3,66% of lateral atlanto-axial subluxations, vertical subluxations in 0,66%, C1C2 arthropathies in 2,33% spondylolisthesis in 2%, and 0,33% of spondylodiscitis. The results of the univariate and multivariate analysis did not find a relationship between CSI and ACPA ( $p=0,71$ ).

**Conclusion:** Cervical spine involvement in rheumatoid arthritis was common in our study. The anticitrullinated protein antibodies are associated with higher clinical activity of the disease. They are important predictors of radiological signs of erosion, which makes us think that we can find a relationship between ACPA and CSI in rheumatoid arthritis.

No conflicts of interest

#### References:

[1] M.Blom et al. Long-term follow-up of the cervical spine with conventional radiographs in patients with rheumatoid arthritis (RA).Scand J Rheumatol 2013; 42:281-8.

[2] Kuchi Avni and al. Atlanto-axial instability in rheumatoid arthritis Mac Med Review 2014; 68(2): 76-81 DOI: 10.2478/mmr-2014-0015