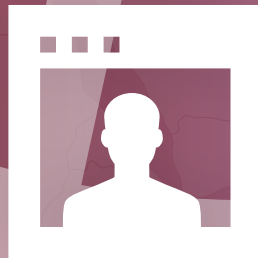WORLD CONGRESS
ON OSTEOPOROSIS,
OSTEOARTHRITIS AND
MUSCULOSKELETAL
DISEASES

VIRTUAL CONGRESS
August 20-22, 2020

AbstractBook

IOF
International
Osteoporosis
Foundation

WCO
IOF-ESCEO

ESCEO

VIRTUAL.WCO-IOF-ESCEO.org

biomarker for early onset of knee OA. Further longitudinal and prospective studies are highly desirable to enable more precise estimates and a better understanding the role of CLU in knee OA.

P347
CLINICAL SIGNIFICANCE OF SERUM IRISIN CONCENTRATION AS A MARKER OF OSTEOPOROTIC FRACTURE

Y. Akhverdyan[1], B. Zavodovsky[2], J. Polyakova[1], L. Seewordova[1], E. Papichev[3], D. Lavrova[3]

[1]Federal State Budgetary Institution, Research Institute of Clinical and Experimental Rheumatology A. B. Zborovsky, [2]Volgograd State Medical University, [3]Federal State Budgetary Institution, Research Institute of Clinical and Experimental Rheumatology A. B. Zborovsky, Volgograd, Russia

Objective: To study the dependence of the frequency and localization of pathological fractures in osteoporosis in patients with rheumatoid arthritis (RA), depending on the level of serum irisin.

Methods: We examined 110 patients with a reliable diagnosis (RA). The age of the examined was from 18-69 y, all patients were female. The diagnosis of RA was established on the basis of the 2010 EULAR diagnostic criteria ("2010 American College of Rheumatology / European League Against Rheumatism Rheumatoid arthritis classification criteria", developed by ACR and EULAR (2010)). As a comparison group, 60 practically healthy women were examined. Serum irisin levels were determined using an enzyme-linked immunosorbent assay by the commercial Irisin ELISA kit.

Results: As a result of measurements in the group of healthy individuals, the average serum irisin level was 20.49±4.82 µg/ml (μ±σ). By calculation, a reference interval of 10.85-30.13 µg/ml was determined, defined as μ±2σ. Subsequently, all patients were divided into groups with reduced and normal levels of irisin. Osteoporotic fractures in the group of patients with normal irisin levels (above 10.85 µg/ml) were recorded in 5 (7.58%) patients, in the group with low irisin levels in 9 (20.45%) patients ($\chi2$=3.942, p=0.047). Fractures of the spine in the group of patients with normal irisin levels were recorded in 3 (4.55%) patients, in the group with reduced irisin levels in 3 (6.82%) patients, femoral neck fractures in 0 (0.00%) and in 2 (4.55%) patients, forearm fractures in 5 (7.58%) and 6 (13.64%) patients ($\chi2$=6.472, p=0.166, the difference is not significant).

Conclusion: Thus, serum irisin levels can be used to predict the incidence of pathological fractures in osteoporosis in patients with RA. However, the location of the fractures does not depend on the concentration of irisin in the blood serum. Some authors consider that irisin can be used as a predictor of osteoporotic fractures and even as a potential drug for the treatment of osteoporosis [1, 2].

References:

1. Colaianni G et al. Clin Rev Bone Miner Metabol 2018;16:16.

2. Polyakova Yu V et al. Ann Rheum Dis 2019;78:1497.

P348
BONE MINERAL DENSITY AND WEIGHT STATUS IN FLAMENCO DANCERS

C. Prado[1], J. Encinas[2], D. Navarro[3]

[1]Universidad Autónoma de Madrid, Departamento de Biología, Facultad de Ciencias, Madrid, [2]Universidad Autónoma de Madrid, Departamento Biología, Facultad de Ciencias, Madrid, [3]Hospital Fajardo.Universidad de Ciencias Medicas de la Habana, La Habana, Spain

Objective: Early onset in dance, along with the somatic gracility of dancers, can be considered risk factors in adolescence peak of bone mass as well as in their maintenance. However Spanish dance demands strong hell, one of the best exercise to promote bone regeneration nothing was known about BMD situation Study aim is to know bone status of young adult, men and women, professional flamenco dancers

Methods: Cross-sectional study of body composition and BMD was performed in 100 Spanish dancers Data collection took place in dance high school of Madrid, at the last year of study (professional level). University student, with same age range and gender ratio constitutes the control population. International Biological Program and the ultrasound technique were used for the determination of anthropometric characteristic and the BMD.

Results: Dancer´s normal weight are registered in 95.2% of men and 86.7% of women, underweight suppose 13.3%. Overweight category only is represented in control sample (27.3% males and 23.7% females). Table shows BMD and T-scores values in control and dancers. Significant differences have been found (p<0.001) in both sexes related with bone status between dancers and control. T-score of women dancers shows the strong differences.

Group and Bone status	Men Dancer	Women Dancer	Men Control	Women control
Height	174.1±5.3	160.2±4.4	179.2±6.9	163.1 ±5.7
Weight	68.8±7.3	53.4 ±5.8	78.1±8.3	57.9±7.4
BMD	0.86±0.074	0.83 ±0.060	0.67±0.14	0.63±0.12
T-score	0.99 ±0.85	1.1 ±0.99	0.88 ±1.14	0.65±1.17

Conclusion: Early begin in Spanish dance before puberty and relative gracility have nor negative repercussion in bone status conversely the hell practice of this dance reverberate in a healthy bone. Women´s benefits was higher and shows high differences with control.