THE REMS TECHNIQUE IS NOT AFFECTED BY THE LEVEL OF AGREEMENT BETWEEN CLINICAL METHODS:

Radiofrequency Echographic Multi Spectrometry (REMS) technique, defined by joint swelling. Cohen’s kappa coefficient was used to analyze concordance between joint swelling appreciated by clinical exam and HS, PD and the presence of synovitis is defined as p<0.05. Statistical analysis was performed using IBM SPSS Statistics, version 21.0.

Results: In all the subjects, LS T-score resulted significantly higher than the FN one according to DXA measurement. However, REMS T-scores for both LS (p = 0.006) and FN (p = 0.010), and spinal REMS T-scores resulted more similar to femoral REMS (average REMS T-score LS: -2.6 ± 1.6 vs T-score FN: -2.4 ± 0.6) and to femoral DXA values.

References

Disclosure of Interests: None declared

SAT0537 THE REMS TECHNIQUE IS NOT AFFECTED BY ARTHROSPHENOIDAL FACT, WHICH CAN HINDER THE DENSITOMETRIC RECOGNITION OF OSTEOPOROSIS

Loredana Cavalli1, Fiorella Anna Lombardi1, Daniele Perrone1, Maria Luisa Brandì1, Institute of Clinical Physiology – National Research Council, IFCC-CNRI, Lecce, Italy, Lecce, Italy; 2Unit of Diseases of Mineral and Bone Metabolism, CTO, AOUCareggi, Firenze, Italy, Firenze, Italy

Background: The measurement of bone mineral density (BMD) with dual-energy X-ray absorptiometry (DXA) is the current gold standard for diagnosing and monitoring osteoporosis, any errors in demographic information, improper patient positioning, incorrect scan analysis or interpretation can lead to erroneous results and decisions [1]. Moreover, a common condition represented by osteoarthritis, by modifying the joint soft tissues composition, can alter the values of BMD [2]. In patients affected by discarthritis, in fact, osteoporotic T-score values at femoral neck (FN) can be associated with normal or osteopenic T-score values of the lumbar spine (LS), the latter influenced by the presence of osteophytes and/or subchondral bone sclerosis.

Objectives: To evaluate the predictive value of an innovative densitometric technique, the Radiofrequency Echographic Multi Spectrometry (REMS) technique, in detecting bone fragility in patients affected by osteoarthritis.

Methods: The T-score values of 35 postmenopausal women with clinical and/or radiological signs of osteoarthritis (mean age 71 years, average BMI 24.2) obtained by DXA at lumbar spine and femoral neck were compared with those obtained by REMS technique performed in the same anatomical sites.

Results: In all the subjects, LS T-score resulted significantly higher than the FN one according to DXA measurement. However, REMS outcomes in both the sites were significantly lower than the corresponding DXA measurement (significant difference between DXA and REMS T-score for both LS (p = 0.006) and FN (p = 0.010), and spinal REMS T-scores resulted more similar to femoral REMS (average REMS T-score LS: -2.6 ± 1.6 vs T-score FN: -2.4 ± 0.6) and to femoral DXA values.

References

Disclosure of Interests: None declared

SAT0538 THE LEVEL OF AGREEMENT BETWEEN CLINICAL EXAMINATION AND ULTRASOUND EXAMINATION IN EARLY ARTHRITIS

Flavio Costa1, Luisa Bites1, João Dinis de Freitas1, Sara Serra1, Mariana Santiago1, João Rovisco1,2, Margarida Coutinho1,2, José Antonio P. Da Silva1,2, Catia Duarte1,2,1 Centro Hospitalar E Universitário De Coimbra, E.P.E., Rheumatology Department, Coimbra, Portugal; 2CBR Coimbra Institute for Clinical and Biomedical Research, Faculty of Medicine, University of Coimbra., Coimbra, Portugal

Background: Over the past decades, Early Arthritis Clinics (EAC) have been created to identify early arthritis and institute appropriate treatment as soon as possible. In Rheumatoid Arthritis (RA) many studies show that ultrasonography (US) is superior to clinical exam for the detection of synovitis and has good correlation with clinical findings and markers of inflammation and can be used to improve the certainty of a diagnosis of RA. However, few studies address the agreement between the US with the clinical examination in patients with early arthritis.

Objectives: To evaluate the agreement between clinical examination and US findings of metacarpophalangeal and proximal interphalangeal joints of patients with early arthritis

Methods: Patients from the EAC of our department with suspect arthralgia were included. Patients were submitted to clinical evaluation by a rheumatologist to identify tender and swollen joints. They were then submitted to an US examination of metacarpophalangeal (MCP) and proximal interphalangeal (PIP) joints, by an experienced sonographer oblivious of the previous examination. Each joint was scored for the presence of synovial hypertrophy (SH) and Power Doppler (PD) signal. Based on OMERACT guidance, we defined synovitis as ≥ grade 1 grey scale synovitis (hypoechogenicity of the presence of effusion) and ≥ grade 1 power-Doppler. The diagnostic value of clinical evaluation was assessed through sensitivity, specificity, Negative predictive value (NPV) and Positive predictive value (PPV), assuming the US synovitis as gold standard. Clinical arthritis was defined by joint swelling. Cohen’s kappa coefficient was used to analyze concordance between joint swelling appreciated by clinical exam and HS, PD and the presence of US synovitis. Kappa values < 0 were considered poor, 0.20-0.40 slight, 0.41-0.60 fair, 0.61-0.80 good and 0.81-1.00 excellent. Statistical significance was defined as p<0.05. Statistical analysis was performed using IBM SPSS Statistics, version 21.0.

Results: 77 consecutive patients were included (53.2% female) with a mean age of 53.8±19.1 years. We evaluated 770 MCP and 770 PIP joints. The sensitivity and specificity of clinical examination in relation to US synovitis was respectively 71% and 60% for MCP and 54.5% and 43.9% for PIP. The NPV and PPV for MCP were 87.8% and 33.3% respectively, and for PIP were 85.3% and 13.9%. The level of agreement between joint swelling and HS, PD and the presence of synovitis is shown on Table 1.