

P1112

USE OF REMS TECHNOLOGY IN PATIENTS WITH SPINE ARTIFACTS: A NEW TECHNOLOGY TO ASSESSED BONE HEALTH**M. D. Tomai Pitinca¹, C. Caffarelli², F. A. Lombardi¹, S. Gonnelli²**¹National Research Council, Institute of Clinical Physiology, Lecce, ²Department of Medicine, Surgery and Neurosciences, University of Siena, Siena, Italy

Objective: Bone Densitometry performed by DXA technology is the gold standard in the evaluation of BMD. It is well known that some conditions (arthritis, vertebral collapses, vertebroplasty) can result in an overestimation of spine's BMD measured with DXA. The purpose of this work is to evaluate the radiofrequency echographic multispectrometry (REMS) technology in patients with spine artefacts.

Methods: 86 female patients (mean age 70.44±9.1), with vertebral abnormalities were considered. These patients, after obtained informed consent, underwent a DXA and REMS examination on the reference sites (proximal femur and lumbar vertebrae).

Results: The BMD assessed by REMS technology showed lower values for the spine compared to the densitometric test performed by DXA for both BMD (0.772±0.065 vs. 1.067±0.210) and T-score (-2.5±0.6 vs. 0.2±1.8). These values did not correlate with each other. The BMD and T-score values measured with REMS and DXA performed on the femoral neck were highly correlated and this correlation reached statistical significance (p<0.01). Furthermore, a high correlation between BMD and T-score measured with the DXA technology on the femoral sites (FN and TH) and those measured on the spine with REMS technology (p<0.01), was present.

Conclusion: The high correlation between femoral BMD, T-score FN and T-score TH values in the two technologies confirms that REMS technology is a highly reliable examination in BMD and fracture risk evaluation. In addition, data obtained on spine lumbar scans show that this technology is able to evaluate BMD more accurately in patients with conditions that can make the DXA exam less reliable. These data open new possible scenarios both for the research and for the clinical approach to fracture prevention of osteoporotic patient.