THE DIAGNOSIS OF SARCOPENIA IN ELDERLY PATIENTS: ROLE OF ULTRASOUND (US) AND SONOELASTOGRAPHY

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Introduction.The value of Ultrasound (US) in the assessment of aging related muscle loss is demonstrated. The aim of the work is to evaluate the role of US associated with Sonoelastography in the diagnosis of sarcopenia in elderly patients.
Materials and Methods. We selected 20 patients from 65 to 85 years,10 women and 10 men, and we performed US and Shear Wave Sonoelastography. The muscles identified for the US and sonoelastography evaluation were the vastus lateralis and the rectus femoris. We evaluated the muscle thickness and the muscle echogenicity and the correlation between the muscle fatty infiltration (myosteatosis) and the muscle stiffness measured by sonoelastography. All patients had cardiovascular disease, in 5 associated with diabetes, in 5 associated with diabetes and obesity, in 5 associated with chronic kidney disease (CKD) and in 5 associated with diabetes and CKD.
Results. In the patients with diabetes US detected reduced muscle thickness and increased muscle echogenicity and increased fatty infiltration. The myosteatosis was higher in the patients with diabetes and obesity.. Shear Wave Sonoelastography revealed increased muscle stiffness. The muscle stiffness was increased in patients with diabetes and with high myosteatosis. The muscle stiffness was also increased in patients with age from 75 to 85 years. The reduced muscle thickness was higher in patients with age from 80 to 85.
Conclusions. US and Sonoelastography are very useful imaging techniques for the evaluation of sarcopenia in elderly patients. The measurement of muscle thickness and stiffness and the evaluation of myosteatosis performed on our elderly patients confirm that the sarcopenia and the associated muscle's pathological US findings are more significant in all elderly patients with diabetes, obesity and metabolic syndrome.