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OSTEOSARCOPENIA AND FRAILTY: ANY CORRELATIONS?

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Background. Osteosarcopenia and frailty are both common and often appear to be associated among elders, but there are no reliable data on their prevalence due to lack of consensus on methods of diagnosis. Both multifactorial they seem to share some risk factors and a higher risk of adverse events.

Purpose. This cross-sectional study aims to verify the association between osteosarcopenia and pre-frailty/frailty and the presence of shared characteristics between them.

Methods. In the 61 subjects enrolled (32 men 29 women aged 65 years and older) frailty was investigated with Fried's criteria, osteosarcopenia with bone densitometry and the EWGSOP's criteria. Were evaluated BMI, fat mass, anthropometric measures, cognitive function, comorbidity, number of drugs, history of fractures, disability, nutritional status, mood, fall's risk, quality of life, SDI at the vertebral morphometry, blood for calcic-phosphoric screening.

Results. Among the 61 subjects 50.8% were pre-frail/frail: age was statistically higher, with no significant difference in sex. Among the 58 patients investigated for osteosarcopenia 34.4% were osteosarcopenic: age was statistically higher, with no difference in sex. Pre-frail/frail and osteosarcopenic subjects had BMI, brachial and calf's circumferences, fat mass, physical activity, nutritional status and quality of life statistically lower and greater depressive state, comorbidity, disability and risk of fall ($p<0.05$). They didn't differ significantly by waist/hip ratio, SDI, calcium, phosphate, PTH, vitamin D and number of drugs. Pre-frail/frail subjects had also statistically lower cognitive function, muscular strength and performance, femoral BMD and T-score compared to not-frail ($p<0.05$), without significant difference in muscle mass. 85% of osteosarcopenic subjects were pre-frail/frail, 60.7% of pre-frail/frail subjects were osteosarcopenic: the two conditions were significantly associated with each other and with history of fractures ($p<0.05$).

Conclusions. Our results, although preliminary, confirm the association between pre-frailty/frailty and osteosarcopenia and their sharing of some risk factors: older age, depression, comorbidity, disability, history of fractures, risk of fall, lower BMI, worst nutritional status and quality of life. There were no associations with sex, number of drugs, vitamin D, PTH, calcium and phosphate levels, abdominal obesity and fat mass which, on the contrary, was lower.