E-Poster

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Influence of Musculoskeletal Health on Cognitive Status: A Cross-Sectional Study

Topic: Health Conditions (Nervous System, Musculoskeletal System, Cardiopulmonary System)

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BACKGROUND

Osteoporosis, sarcopenia and cognitive impairment are common problems in the elderly population. Adequate management of these clinical conditions is essential as there are known risk factors for falls, fractures, hospitalization, disability and increased mortality. The osteosarcopenia represents a new nosological entity with a significant impact on the functional independence of people who suffer from it. Clinical and preclinical studies attest how the decline in muscle mass and strength can contribute to cognitive deterioration by supporting the presence of "muscle-brain crosstalk". The aim of our study was to compare cognitive status and other parameters of musculoskeletal fragility such as physical performance, nutrition, pain and quality of life between osteoporotic and osteosarcopenic patients.

METHODS

Patients with osteoporosis and osteosarcopenia were included in this cross-sectional study, according to the respective reference diagnostic criteria. Anthropometric and anamnestic data such as age and body mass index (BMI) were collected. The experimental protocol included the Montreal Cognitive Assessment (MoCA), the HandGrip Strength test (HGS), the Short Physical Performance Battery (SPPB) and its sub-items, the International Physical Activity Questionnaire (IPAQ), the Brief Pain Inventory and its two indexes - Severity Index (BPI S.I.) and Interference Index (BPI I.I.), the Short Mini-Nutritional Assessment Scale (S-MNA), the EuroQol Visual Analog Scale questionnaire. The population was divided into two groups: osteoporosis (Group 1) and osteosarcopenia (Group 2). We compared the results obtained from the outcome measures and estimated the relative risk of having cognitive impairment between the two populations.

RESULTS

We recruited 98 age-matched female patients (49 with osteoporosis and 49 with osteosarcopenia) at the Clinical Department of Physical and Rehabilitation Medicine of the AOU "Luigi Vanvitelli" in Naples. From the comparison between groups, patients suffering from osteosarcopenia had significantly worse values for IPAQ (3,560 for Group 1 versus 3,078 for Group 2; p=0.007) and for MoCA (25.84 for Group 1 versus 23.82 for Group 2; p = 0.016) with a 2.2 times greater risk of presenting cognitive decline compared to the population suffering from osteoporosis alone. Furthermore, worse values in Group 2 were also found for BPI-II (2.57 for group 1 *vs* 4.10 for Group 2; p=0.010).

CONCLUSION

Our study highlighted a significant association between osteosarcopenia and cognitive decline in a population of elderly patients. These results suggest the importance of an evaluation of cognitive functions even in a population with disabilities related to musculoskeletal pathologies.

Statement of Disclosures

None

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