Co-occurrence of sarcopenia and frailty in acutely admitted older medical patients: Results from the Copenhagen PROTECT study

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BACKGROUND AND AIM

It is well known that physical function declines with age, and sarcopenia is generally used to describe the age-related loss of muscle mass and strength. It is believed to play a role in the pathogenesis of frailty and functional impairment that may occur with old age. Frailty is a multidimensional clinical syndrome - an accumulation of deficits at both cellular and subcellular level that remains un-repaired and leads to clinically detectable damage.

The aim is to investigate the prevalence of sarcopenia and frailty in acutely admitted older medical patients - and the co-occurrence of frailty and sarcopenia.

MATERIAL AND METHODS

This study was based on the Copenhagen PROTECT study. A prospective cohort of older (>65 years) patients acutely admitted to Copenhagen University Hospital, Bispebjerg, between 2019 and 2021. Handgrip strength (HGS) was investigated using a handheld dynamometer and muscle mass (SMI) was investigated using direct-segmental multifrequency bioelectrical impedance analyses (DSM-BIA). Sarcopenia was defined according to EWGSOP. Frailty was present in cases where the Clinical Frailty Scale (CFS) was ≥ 5.

Descriptive statistics were performed to determine prevalence rates of low SMI, low HGS, sarcopenia, and frailty and reported as the relative frequency (%).

RESULTS

This study includes 638 acutely admitted older (mean age: 78.2 ±7.6, 55% women) with complete records of SMI, HGS, and CFS. Low HGS and low SMI were present in 39.0% and 32.9% of the patients, respectively. Sarcopenia was present in 19.7% of the patients. Frailty was present in 39.0% of the patients, and low HGS, low SMI, and sarcopenia co-occurred in 55.8%, 43.8% and 30.9% of frail patients, respectively.

Frailty

227 (35.6%)

78 (12.2%)

62 (9.7%)

61 (9.5%)

32 (5.0%)

77 (12.1%)

49 (7.7%)

52 (8.2%)

Low HGS

Low SMI

CONCLUSION

Frailty is a common geriatric syndrome and although sarcopenia can be viewed as the manifestation of physical frailty, this classification may not be suitable for identification of frail patients. The present data demonstrates that low muscle strength appears to co-occur more frequently in frail patients compared to both SMI or sarcopenia in acutely admitted older patients. Hence, it seems important to assess both measurements of frailty, muscle mass, and muscle strength to identify high-risk older patients.