



Impact of Pre-Fracture Sarcopenia on Short-term Mortality of Hip Fracture Patients Admitted to a Tertiary Care Center in Southern Sri Lanka

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Sarcopenia is a progressive loss of skeletal muscle mass, strength and function, and a leading cause of falls and fractures. Sudden decline in mobility and acute inflammatory reaction following hip fracture (HF) leads to an acceleration of pre-existing muscle wasting resulting in poor health outcomes in this vulnerable population. This study was designed to determine the association between pre-fracture sarcopenia and short-term mortality among HF patients admitted to National Hospital Galle (NHG), Sri Lanka. A prospective cohort study was conducted among 370 consecutive patients with incident HF, aged 40 years or more, admitted to the NHG. Sarcopenia was assessed using the locally validated SARC-F tool soon after the admission with a score ≥ 4 indicating risk of sarcopenia. Patients were followed up for 30 days, post fracture to evaluate the mortality outcomes through telephone interviews with family members. Binary logistic regression analysis was used to examine the association between pre-fracture sarcopenia and short-term mortality. Ethical approval was obtained from Ethical Review Committee of Faculty of Medicine, University of Ruhuna. Among 370 subjects, 76% (n=281) were females, while 65.7% (250) were married. The mean ($\pm SD$) age of HF patients was 75.1 (10.8) years. Of the 370 patients, 31.9% (115) had a risk of sarcopenia at the time of admission (SARC-F >4) and 9.4% (34) patients died while in the hospital or within 30 days of HF. The short-term mortality rate was significantly associated with pre-fracture-sarcopenia of HF patients ($p=0.02$) and sarcopenia was a significant predictor of short-term mortality of HF patients. Sarcopenia remained a strong predictor after adjusting for several confounders such as age, gender and physical disability (OR= 4.14, 95% CI [1.65,10.38], $p=0.002$). Pre-fracture sarcopenia significantly increases the risk of mortality in HF patients, and it is a significant predictor of short-term mortality in patients with HF. Therefore, early detection and targeted interventions should be integrated with the HF management protocol specially in vulnerable population.

Keywords: Hip Fracture, Sarcopenia, Short-term Mortality