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5 THE PREVALENCE AND INTER-RELATIONSHIP OF FRAILTY, SARCOPENIA AND MALNUTRITION IN A SECONDARY CARE OSTEOPOROSIS CLINIC POPULATION

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Introduction: Osteoporotic fractures result in much morbidity and cost to society. The main determinants of these fractures are osteoporosis and falls. Sarcopenia, frailty and malnutrition are emerging concepts associated with the risk of falls. There are few studies related to the prevalence of these factors in osteoporotic patients and these conditions are usually ignored in osteoporosis clinics. This service project was designed to implement the assessment of these conditions in a busy osteoporosis clinic, to determine their prevalence and to explore the inter-relationship between them.
Methods: Consecutively recruited patients aged over 60 years attending osteoporosis clinics were tested for sarcopenia, frailty and malnutrition. Sarcopenia was defined using the European Working Group on Sarcopenia in Older People definition: low muscle mass (measured by bioimpedance, cut-offs <8.87 kg/m2 and <6.67 kg/m2 in men and women respectively) and either reduced grip strength (<30 kg men,<20 kg women) or slow gait speed (</=0.8 m/s). The Groningen Frailty Indicator was used to assess frailty (score>/=4). The Mini Nutritional Assessment-Short Form (MNA-SF) was used for malnutrition (score </=7).
Results: 63 patients (56 women), mean age = 77.6 +/− 7.5 years were assessed. Introduction of the assessments were feasible and practical. The prevalence of sarcopenia, frailty and malnutrition were 41%, 66.7% and 7.9% respectively. There was large overlap between frailty and sarcopenia: 47.2% of frail patients were sarcopenic; 73.9% of sarcopenic patients were frail. Slow gait speed, MNA-SF scores and physical inactivity were significant predictors of frailty, but in multivariate analysis only gait speed remained an independent predictor. For sarcopenia, only body mass Index (BMI) and physical inactivity were independent predictors. BMI and calf circumference correlated highly with muscle mass (Pearsons r = 0.87, 0.77; p < 0.001).
Conclusions: Assessments for sarcopenia, frailty and malnutrition are feasible in busy osteoporosis clinics. Frailty and sarcopenia are common in osteoporotic patients although malnutrition was less common. Slow gait speed is a good predictor of frailty and low BMI and small calf circumference could potentially replace muscle mass in the diagnostic criteria for sarcopenia.