Abstract

Background: Risk-factors for mortality in hip fractures encompass nutritional status, nominally body mass index, but not body composition. Given the difficulty of anthropometric assessment in bedridden patients a prospective study with bioimpedance analysis was designed. Methods: Elderly patients with hip fracture were consecutively recruited. Biochemical tests, primitive bioimpedance measurements (resistance, reactance and phase angle) and follow-up till one year were targeted. Results: Patients (N = 69, 81.2 ± 8.1 years old, 72.5% females) stayed in the hospital for 15.5 ± 17.1 days, and 18.8%(13/69) required further hospitalization during the ensuing months. Mortality was 11.6% within 30 days, coinciding with hospital mortality, and an additional 11.6% till one year, thus reaching 23.2%. Anemia, hypoalbuminemia and low transferrin, along with elevated glucose and urea were frequent, suggesting under-nutrition with metabolic derangements. Reactance, urea and creatinine were different in patients suffering both early and late demise. Resistance, white blood cell count and osteoporosis were risk factors for early mortality only, and anemia exclusively for late mortality. Conclusions: Primitive bioimpedance measurements, which had not been hitherto investigated, were prognostically related to early and late mortality. These markers of disease-related malnutrition and especially reactance should be further studied in patients unfit for anthropometric evaluation due to fracture and immobility.

Keywords

Hip fracture, Malnutrition, Bioimpedance analysis, Reactance, Body mass index Morbidity. Mortality.