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## Resumo

Elderly patients undergoing maintenance hemodialysis (MHD) are highly susceptible to develop sarcopenia, due to the natural process of ageing and to the catabolism induced by the hemodialysis procedure. The aim of this study was first, to evaluate the prevalence of sarcopenia, dynapenia and muscle atrophy in a group of elderly patients on MHD; second, to evaluate whether the criteria applied for diagnosis of sarcopenia proposed by international societies are able to distinguish patients with worse clinical condition, nutritional status and quality of life. This multicenter, cross-sectional study included 94 elderly MHD patients (> 60 years) from five dialysis facilities. All participants underwent anthropometric measurements, body composition, handgrip strength (HGS) and laboratory measurements, and the assessment of nutritional status by 7 point subjective global (7p-SGA) assessment. In addition, the participants answered a health related quality of life (HRQoL) questionnaire. For the diagnosis of sarcopenia, the criteria proposed by international societies were adopted, which included parameters indicative of low muscle mass and low muscle function. For muscle mass, we adopted the criterion of lean body mass index (LBMI) < 20 percentile for gender and age of a reference population, assessed by lean body mass from skinfold thicknesses. For the criterion of low muscle function, we adopted the HGS < 10 percentile for gender, age and arm specific side from a reference population. Patients were classified as *Sarcopenic* (low LBMI associated with low HGS); *Dynapenic* (low HGS) and with *Muscular atrophy* (low LBMI). Sarcopenia was present in 13.8% of the patients, while dynapenia was observed in 37.2% and muscle atrophy in 35.1%. Sarcopenia was able to distinguish patients who had greater impairment of nutritional status and body composition. The criteria of muscle function (alone or combined with muscle mass) also identified patients with worse quality of life. In conclusion, we report that the prevalence of sarcopenia was observed in 13.8% of the group. However, when using only criteria indicating reduction of strength or muscle mass, this prevalence increased to 30%. The condition of sarcopenia distinguished patients with poor nutritional status and quality of life.

