Frequency and predictors of hyperkalemia in patients ≥60 years of age with heart failure undergoing intense medical therapy

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Hyperkalemia is a concern in heart failure (HF), especially in older patients with co-morbidities. Previous studies addressing this issue have focused mainly on younger patients. This study was aimed at determining the frequency and predictors of hyperkalemia in older patients with HF undergoing intense medical therapy. Frequency and predictors of hyperkalemia were defined in patients (n = 566) participating in the Trial of Intensified versus Standard Medical Therapy in Elderly Patients with Congestive Heart Failure, in which patients ≥60 years of age were randomized to a standard versus an intensified N-terminal brain natriuretic peptide-guided HF therapy. During an 18-month follow-up 76 patients (13.4%) had hyperkalemia (≥5.5 mmol/L) and 28 (4.9%) had severe hyperkalemia (≥6.0 mmol/L). Higher baseline serum potassium (odds ratio [OR] 2.92 per mmol/L), baseline creatinine (OR 1.11 per 10 μmol/L), gout (OR 2.56), New York Heart Association (NYHA) class (compared to NYHA class II, IV OR 3.08), higher dosage of spironolactone at baseline (OR 1.20 per 12.5 mg/day), and higher dose changes of spironolactone (compared to no dose change: 12.5 mg, OR 1.45; 25 mg, OR 2.52; >25 mg, OR 3.24) were independent predictors for development of hyperkalemia (p < 0.05 for all comparisons). In conclusion, hyperkalemia is common in patients ≥60 years of age with HF undergoing intense medical therapy. Risk is increased in patients treated with spironolactone, in addition to patient-specific risk factors such as chronic kidney disease, higher serum potassium, advanced NYHA class, and gout. Careful surveillance of serum potassium and cautious use of spironolactone in patients at risk may help to decrease the incidence of potentially hazardous complications caused by hyperkalemia.