Rio de La Plata study: A multicenter, cross-sectional study on cardiovascular risk factors and heart failure prevalence in peritoneal dialysis patients in Argentina and Uruguay

G Moretta1,2, A J Locatelli2, L Gadola3, J De Arteaga4, L Solá5, N Caporale6, J Schargorodsky2, E Ducasse5, G Pastorino2, N Marchetta15, W Espeche11 and Z Ortiz12

ABSTRACT

A multicenter cross-sectional study was performed to evaluate the prevalence of heart failure (HF) and the associated cardiovascular (CV) risk factors in 298 peritoneal dialysis (PD) patients from Argentina and Uruguay, representing almost 30% of the total number of PD patients in the two countries. Bidimensional echocardiography, electrocardiography, and biochemical analysis were performed. Systolic HF was defined as an ejection fraction <50%. According to echocardiography, 84.6% showed left ventricular hypertrophy (LVH), 38.3% valvular heart disease, and 35.4% valvular calcification, whereas 20% showed intraventricular conduction disturbances on the electrocardiogram. The prevalence of CV risk factors was of 73% hypertension, 51% sedentarism, 18% diabetes, 16.8% obesity, 12% smokers, 42.3% phosphorus >5.5 mg per 100 ml, 42.3% parathyroid hormone>300 pg ml⁻¹, and 29.6% calcium phosphate product >55. The prevalence of systolic HF was 9.9%, being significantly associated with diabetes: odds ratio (OR)=4.11 (P<0.006) and hypoalbuminemia: OR=3.45 (P<0.011). Forty percent of patients with a diagnosis of left ventricular dysfunction at the time of the study were asymptomatic. Variables associated with LVH in the multivariate analysis were anemia (OR=4.06; P<0.001) and previous hemodialysis (OR=1.99; P<0.031). The identification of reversible risk factors associated to HF and the diagnosis of asymptomatic ventricular dysfunction in this PD population will lead our efforts to establish guidelines for prevention and early treatment of congestive HF in patients on PD.

Keywords:

heart failure, peritoneal dialysis, cardiovascular risk factor, left ventricular dysfunction