



Mineralocorticoid Receptor Antagonism in Acutely Decompensated Chronic Heart Failure

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Purpose: Mineralocorticoid receptor antagonists (MRAs) use in acutely decompensated chronic heart failure (ADCHF) may improve congestion through diuretic effect and prevent neurohormonal activation. We aimed to evaluate the clinical effect and safety of spironolactone in ADCHF.

Methods: Prospective, experimental, single-centre, and single-blinded trial. Patients were non-randomly assigned to standard ADCHF therapy or oral spironolactone 50 - 100 mg/d plus standard ADCHF therapy. Data were collected in the first admission day (before spironolactone administration) and at day 3 of hospitalization.

Results: During 1 year period, 100 patients were enrolled, 50 included in the treatment group. Mean (SD) spironolactone dose (mg) at day 1 was 94,5 ± 23,3 and at day 3 was 62,7 ± 24,3. Worsening renal function (increase in pCr ≥ 0,3 mg/dL from day 1 to day 3) was more likely to occur in control group (20% vs. 4%; p = 0,038), serum potassium did not differ between groups, and plasma NTproBNP had a significant decrease in spironolactone group at day 3 (median [IQR], 2488 [4579] vs. 1555 [1832]; p = 0,05). Furthermore, a greater proportion of patients in the treatment group were free of congestion at day 3: less edema, rales, jugular venous pressure (JVP) and orthopnea (all, p < 0,05). In addition, a significantly higher proportion of patients were on oral furosemide at day 3 (44% vs. 82%; p < 0,001).

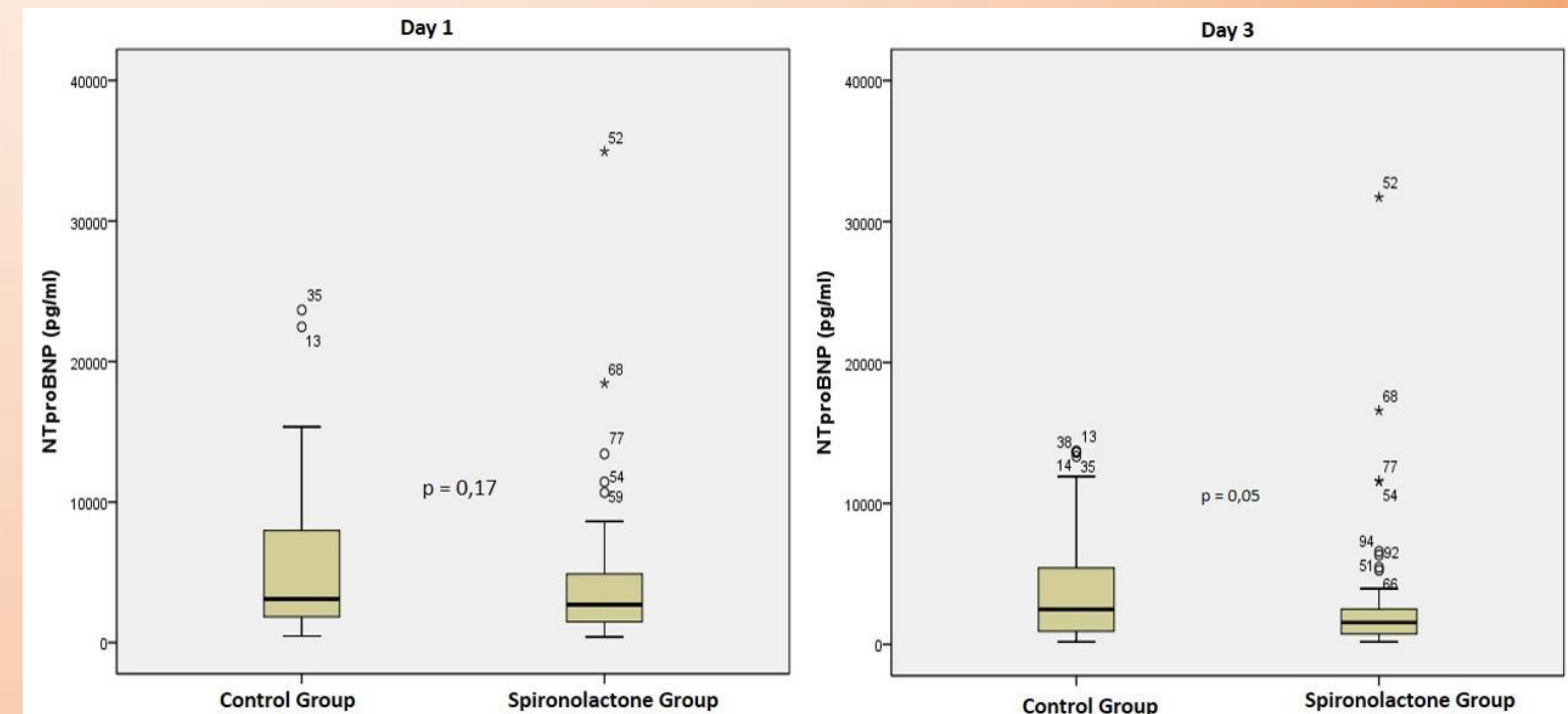


Figure. Changes in Mean Plasma Levels of NTproBNP from Day 1 to Day 3 in the Control and Spironolactone Groups

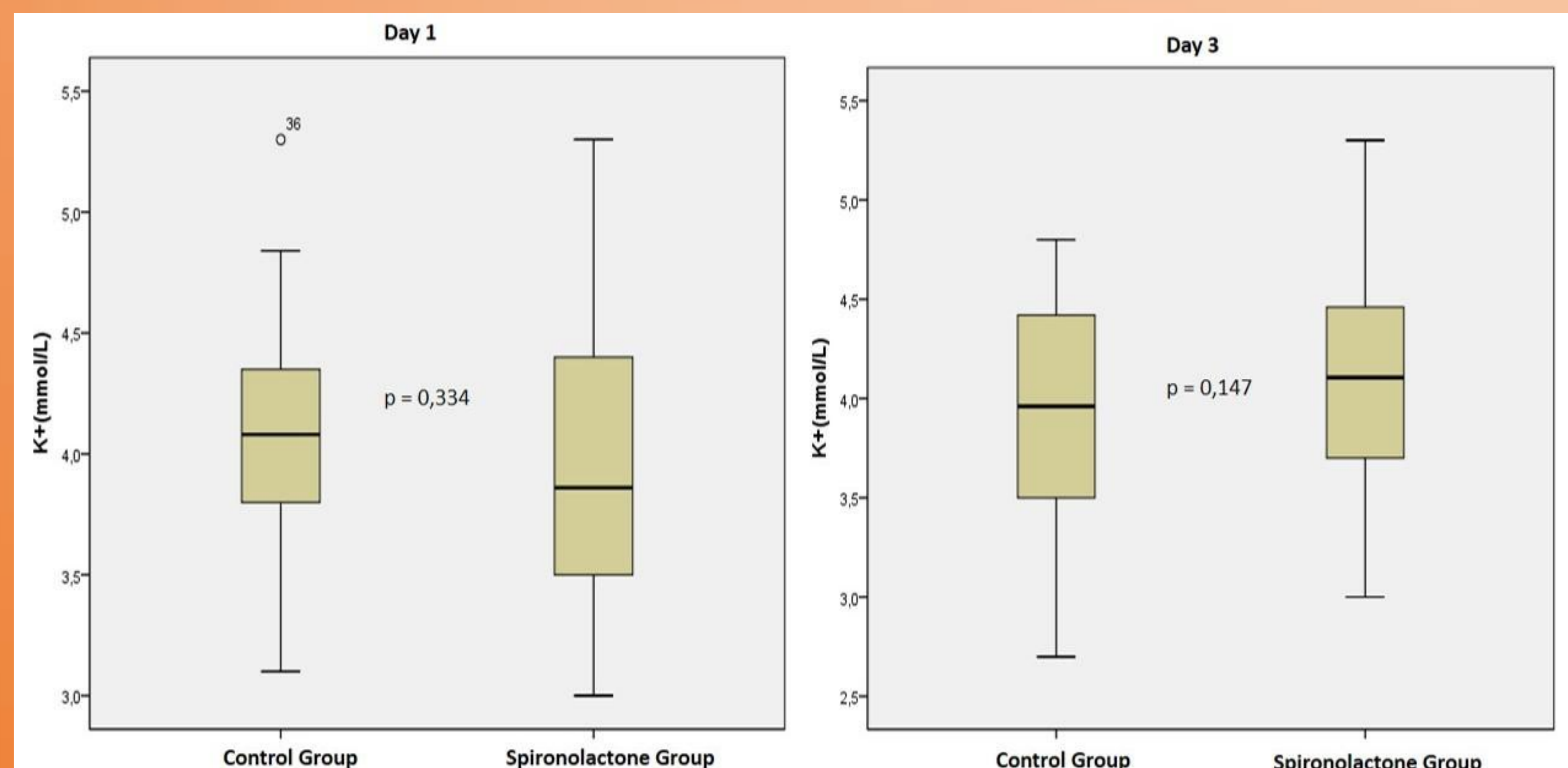


Figure. Changes in Serum Potassium (K⁺) from Day 1 to Day 3 in the Control and Spironolactone Groups

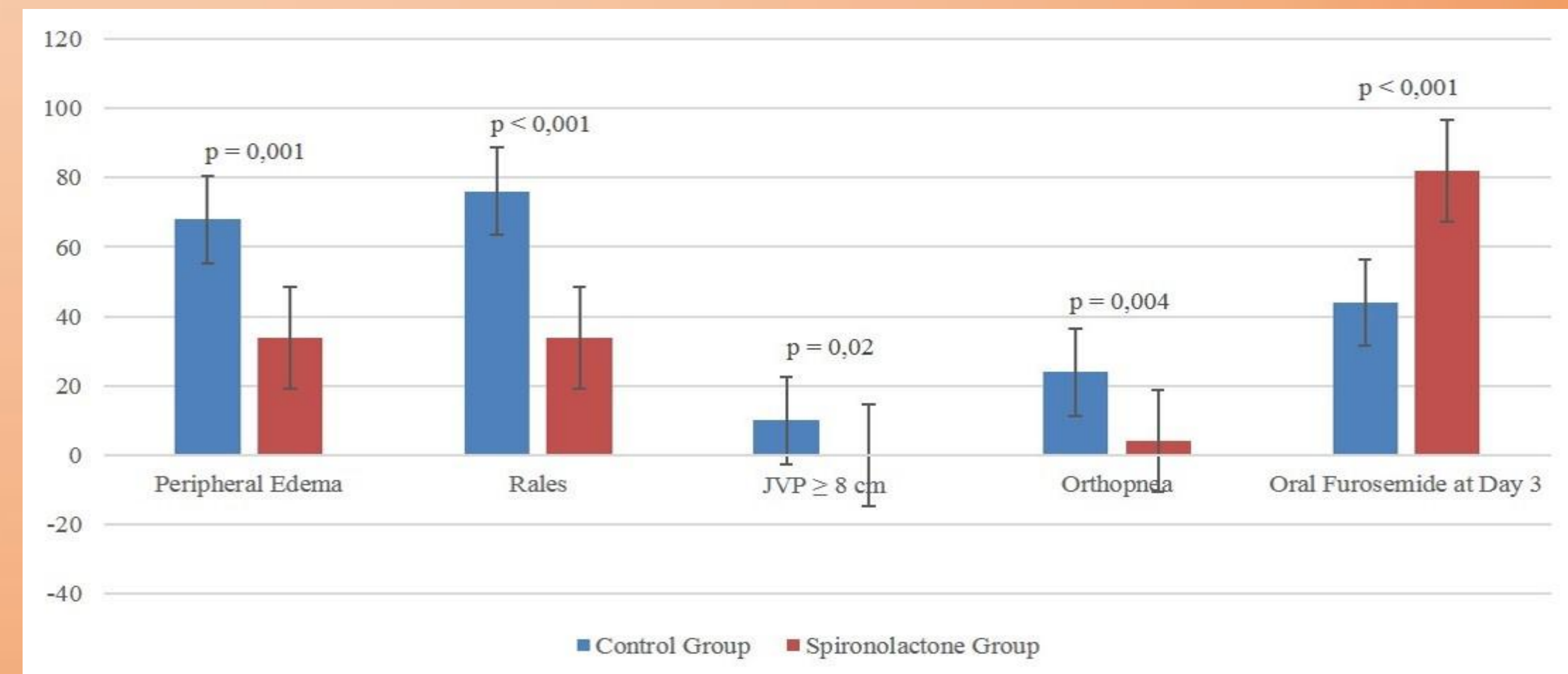


Figure. Changes in Congestive Signs and Patients Taking Oral Furosemide at Day 3 (%) in the Control and Spironolactone Groups

Conclusions: Our study supports the safety of high dose spironolactone in ADCHF and suggests a positive impact in the resolution of congestion. The important findings of our pilot study need to be confirmed in larger trials.

Disclosures: The authors have no conflicts of interest to disclose