HIGH FUROSEMIDE DOSE IS AN INDEPENDENT RISK FACTOR FOR MORTALITY IN PATIENTS WITH CHRONIC HEART FAILURE

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Background: Diuretics relieve congestion in HF patients but activate the renin-angiotensin-aldosterone system (RAAS). High furosemide doses have been correlated with higher mortality; it is not clear whether higher diuretic doses represent a marker of disease severity or an independent prognostic factor. We investigated the impact of furosemide dose on the prognosis of patients with stable chronic HF.

Methods: We retrospectively recorded the furosemide dose of 173 HF patients at their first visit to the outpatient HF clinic. Only patients with a minimum of 3 year follow-up, on a steady state condition over the last 6 months (stable NYHA class, no change of diuretic dose and no HF related hospitalizations) were included. Group A consisted of 103 patients receiving ≤ 80 mg of furosemide daily (low dose group) while the remaining 70 patients consisted group J (daily dose of furosemide > 80 mg, high dose group)

Results: Baseline characteristics of the two groups did not differ significantly (including NYHA, left ventricular ejection fraction, VO2peak, pulmonary capillary wedge pressure, systolic blood pressure, creatinine, medication use). The 2, 3 and 6-year survival in Group A patients was significantly higher compared to that of Group B (97% vs 74%, 93% vs 59% and 73% vs. 31% respectively, p <0.001 at all time points). In the multivariate analysis high dose of furosemide was identified as the strongest independent prognostic factor of mortality at 2 (HR=8.2, 95% CI: 1.8-38.9, p=0.007), 3 (HR=9.1, 95% CI: 1.9-44, p=0.006) and 6 years (HR=4.1, 95% CI: 1.6-10.4, p=0.003). Moreover, worsening of renal function, defined as an increase of more than 0.3 mg/dl in baseline serum creatinine value was recorded in 47% in group A vs 73% in group B, p=0.002.

Conclusions: High furosemide dose in patients with chronic HF without recent episodes of decompensation is correlated with renal function deterioration and adverse mid-term and long-term prognosis. It seems that in this setting, furosemide dose may be considered an independent risk factor for mortality. A randomized prospective study comparing low to high doses of furosemide in stable HF patients is required.