The administration of loop diuretics in the management of acute decompensated heart failure (ADHF) whether IV boluses or continuous infusion is still controversial. We intended to evaluate differences between the two administration routes on the thoracic fluid content (TFC) and the renal functions” Ragab et al (2018).

Abstract:

INTRODUCTION: The administration of loop diuretics in the management of acute decompensated heart failure (ADHF) whether IV boluses or continuous infusion is still controversial. We intended to evaluate differences between the two administration routes on the thoracic fluid content (TFC) and the renal functions.

METHODS: Sixty patients with ADHF admitted to the critical care medicine department (Cairo University, Egypt) were initially enrolled in the study. Twenty patients were excluded due to EF > 40%, myocardial infarction within 30 days, and baseline serum creatinine level > 4.0 mg/dL. Furosemide (120 mg/day) was given to the remaining 40 pts who continued the study after 1:1 randomization to either continuous infusion (group-I, 20 pts) or three equal intermittent daily doses (group-II, 20 pts). Subsequent dose titration was allowed after 24 h, but not earlier, according to patient’s response. No other diuretic medications were allowed. All patients were daily evaluated for NYHA class, urine output, TFC, body weight, serum K+, and renal chemistry.

RESULTS: The median age (Q1-Q3) was 54.5 (43.8-63.8) years old with 24 (60%) males. Apart from TFC which was significantly higher in group-I, the admission demographic, clinical, laboratory and co-morbid conditions were similar in both groups. There was statistically insignificant tendency for increased urine output during the 1st and 2nd days in group-I compared to group-II (p = .08). The body weight was decreased during the 1st day by 2 (1.5-2.5) kg in group-I compared to 1.5 (1-2) kg in group-II, (p = .03). These changes became insignificant during the 2nd day (p = .4). The decrease of TFC was significantly higher in group-I than in group-II [10 (6.3-14.5) vs 7 (3.3-9.8) kΩ-1 during the first day and 8 (6-11) vs 6 (3.3-8.5) kΩ-1 during the second day in groups-I&II respectively, P = .02 for both]. There was similar NYHA class improvement in both groups (p = .7). The serum creatinine was increased
by 0.2 (0.1-0.5) vs 0 (-0.1 to 0.2) mg% and the CrCl was decreased by 7.4 (4.5-12.3) vs 3.1 (0.2-8.8) ml/min in groups-I&II respectively (p = .009 and .02 respectively).

CONCLUSIONS: We concluded that continuous furosemide infusion in ADHF might cause greater weight loss and more decrease in TFC with no symptomatic improvement and possibly with more nephrotoxic effect.

You may also be interested in...

Continuous infusion v intermittent bolus injection of furosemide
Optimal infusion rate for a range of IV antibiotic therapy
Infusion or intermittent bolus administration of IV furosemide in dogs and cats

Reference: