Is there a difference in release of high sensitive troponin I and brain natriuretic peptide in acute heart failure with reduced and preserved ejection fraction?

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INTRODUCTION: Recently, it has been recognised that up to 50 % of patients with heart failure have preserved ejection fraction. High sensitive troponin I (hs TnI) and brain natriuretic peptide (BNP) are elevated in acute heart failure (AHF).¹⁻³ The aim of this study was to investigate possible differences in their release in subpopulation with reduced ejection fraction (HF-REF) in comparison to preserved ejection fraction (HF-PEF) subpopulation.

PATIENTS AND METHODS: we analyzed data from 42 patients hospitalised with AHF in Intensive Care Unit, 2 patients were excluded due to intrahospital death within 72 hours from admission. hs TnI was tested at the admission, while BNP was tested at admission (BNP1) and at discharge (BNP2). We also calculated procentual reduction of BNP at discharge compared to admission values.

RESULTS: 25 patients (62.5%) had HF-REF with mean LVEF 31.48 +/- 4.77%. 15 patients (37.5%) had HF-PEF with mean LVEF 52.25 +/- 2.35%. There was no significant difference in hs TnI release according to different systolic function- in HF-REF group mean values was 151.91 pg/ml vs 60.37 pg/ml in HF-PEF group (p=0.1). BNP1 mean values were higher in HF-REF group compared to HF-PEF group-2183.43 pg/ml versus 853.96 pg/ml, p <0.05. Discharge mean BNP values (BNP2) were also higher in HF-REF group compared to HF-PEF-890.30 pg/ml versus 358.03 pg/ml, p <0.05. There was no significant difference in in-hospital procentual reduction of BNP values (admission vs discharged values) in HF-REF and HF-PEF group- 55.72% versus 55.56% (p=0.77).

CONCLUSION: Even with more impaired systolic function, hs troponin I mean values in HF-REF were not higher compared to HF-PEF group. Admission and discharge BNP levels were higher in patients with reduced EF compared to patients with preserved EF. That means that neurohormonal activation is more pronounced in subpopulation of patients with reduced LVEF. Percentage of intrahospital BNP reduction were similar in were similar in both groups..

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LITERATURE

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