

Serum presepsin levels in patients with decompensated heart failure

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Background: Acute decompensated heart failure (HF) represents a major public health burden, and it is understood that HF is not simply a mechanical failure of the heart pump but inflammatory mediators play a crucial role in the development of HF. Possible targets involve pro- and anti-inflammatory cytokines and their receptors, endotoxins, adhesion molecules, nitric oxide and nitric oxide synthase, reactive oxygen species, and different types of leucocytes. Recently, the soluble CD14 subtype; presepsin (PSP) has been suggested as a reliable marker for systemic inflammation which have not been studied in DHF setting. Our aim of this study was to evaluate serum PSP levels in patients who were admitted to coronary care unit with DHF.

Patients and Methods: 50 patients with confirmed acute decompensated HF (27 male – 54%; 23 female – 46%) and 51 controls without (20 DHF – 39.2% male; 31 female – 60.8%) were included in our study. Besides routine clinical and laboratory data, brain natriuretic peptide (BNP) and PSP levels were measured in peripheral venous blood samples of all the participants.

Results: PSP levels were significantly higher in patients with HF than controls (1107.98±1001.15 vs 540.47±526.9 pg/ml, p=0.001). Cut-off value for PSP was 442 pg/ml to detect HF with 76% sensitivity, 62.7% specificity, 66.7% positive predictive value and 72.7% negative predictive value (CI: 0.975-1,000). The HF diagnostic accuracy of PSP was not superior to that of BNP (AUC: 0.99 vs 0.74).

Conclusions: PSP levels are significantly elevated in patients with HF compared to controls. PSP may be a new marker for HF.

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