

THE DIAGNOSTIC VALUE OF NT PRO BNP ON SEVERITY OF CHRONIC HEART FAILURE ASSOCIATED WITH ECHOCARDIOGRAPHIC MEASUREMENTS IN SRI LANKA: A PRELIMINARY STUDY

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The cardiac biomarker, N terminal pro brain natriuretic peptide (NT Pro BNP) is used as a diagnostic aid in most countries for the diagnosis of heart failure. Here in Sri Lanka for the first time we measured the NT Pro BNP level in chronic heart failure patients and in controls to create a preliminary reference range and to assess the association of it with the severity of the cardiac condition. Seventy-six chronic heart failure patients with reduced ejection fraction (EF<50%) and 76 controls without heart failure who consented to volunteer for the study were recruited. NT Pro BNP level, left ventricular end diastolic diameter (LVEDD), left ventricular end systolic diameter (LVESD) and left ventricular ejection fraction (LVEF) were compared in patients and controls. The data was analyzed using SPSS version 16. There was a significant difference in mean NT Pro BNP level in chronic heart failure (CHF) patients (mean 1705.23 ± 1696.36 pg/ml; range 231-7963) when compared with controls (mean 69.61 ± 48.43 pg/ml; range 16-181) (p<0.001). Based on the results of healthy individuals, 169.4pg/ml was established as the 95th percentile. Significant differences were found between patients with LVEF < 30% and patients with moderate ventricular impairment (LVEF = 31 – 50%) and without ventricular impairment (LVEF = 60%, p < 0.001). CHF patients had significantly higher NT Pro BNP levels than those with normal LVEDD and LVESD (p<0.05). NT-Pro BNP is an important biomarker in evaluating CHF patients. The presented data suggest a population cut-off level of 169.4pg/ml to exclude heart failure in individuals with symptoms suggestive of heart failure or to stratify individuals at risk of heart failure. NT Pro BNP provides important diagnostic information about LVEF in CHF diagnosis.

Keywords: Nt Pro Bnp, Chronic Heart Failure, Preliminary Reference Range