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NT-proBNP concentration as a criterion for the diagnosis of heart failure Patients in Sri Lanka: A Preliminary study

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Objective: To compare N-terminal pro-brain natriuretic peptide (NT-proBNP) level between chronic heart failure patients and individuals without heart failure.

Methods: Blood samples were collected from echocardiographycally confirmed 46 chronic heart failure patients and 46 non heart failure individuals at cardiology unit District General Hospital, Kalutara. Serum samples were analyzed for serum creatinine level to exclude renal influence and NT Pro BNP level was measured using a minividas® auto analyzer.
Bilateral comparisons were made using Mann-Whitney U test. P values lower than 0.05 were considered as statistically significant. The data were analyzed using SPSS version 16.

Results: Patients with chronic heart failure were shown to have higher NT-proBNP values with a mean of 1553.17±1555.07pg/ml (range124-6167) than control subjects with a mean of 39.61±20.23pg/ml (range 15-90) (P 0.001). A statistically significant difference was observed in plasma NT-proBNP values between heart failure patients and healthy individuals ($p < 0.001$). When the data were evaluated, minimum value of NT-pro BNP was found to be 124pg/ml for chronic heart failure patients. Based on the results of healthy individuals, 82.7pg/ml was established as the 95^{th} percentile.

Conclusions: NT-proBNP is an important biomarker in evaluating CHF patients. The presented data suggest a population cut-off level of 82.7pg/ml to exclude heart failure in individuals with symptoms suggestive of heart failure or to risk stratify individuals at risk of heart failure.