

The Role of N-Terminal Pro-Brain Natriuretic Peptide in the Diagnosis and Management of Congestive Heart Failure due to Dilated Cardiomyopathy in Children

Narin N. (1), Baykan A. (1) Saygin B. (1) Ozyurt A. (1) Sezer S.S. (1) Zararsiz G. (2) Uzum K. (1)
Erciyes University Medical Faculty Dept. of Pediatric Cardiology, Kayseri, Turkey (1) Erciyes University
Medical Faculty Dept. of Biostatistics and medical informatics, Kayseri, Turkey (2)

Introduction (or Basis or Objectives):

N-Terminal ProBrain Natriuretic Peptide (NTProBNP) is a neurohormone which is stored mainly in myocytes of the ventricles and released as a result of pressure and volume overload or myocardial damage. Recently natriuretic peptides were revealed to be useful in the diagnosis, follow-up and in the predicting the degrees of heart failure in children and adults.

Methods:

59 patients; 37 in control (aged 1 months-14 years) and 22 patients (aged 2 months-14 years) with acute congestive heart failure with dilated cardiomyopathy (DCMP) were enrolled. Patients with renal and hepatic diseases were excluded. Ross scoring was used in grading heart failure. Scoring was done and NTProBNP levels were measured in admission and 7th day of treatment.

Results:

Patients were classified into 4 groups according to Ross score before and after treatment. Cut-off level of NT-ProBNP was determined after the treatment for study group. Strong relationship was found between degree of heart failure and NTProBNP levels (Fig), but not with echocardiographic findings (EF, FS, LVMI, LVEDD) and cardio-thoracic index on telecardiography. There wasn't significant difference between NT-ProBNP levels and age-gender.

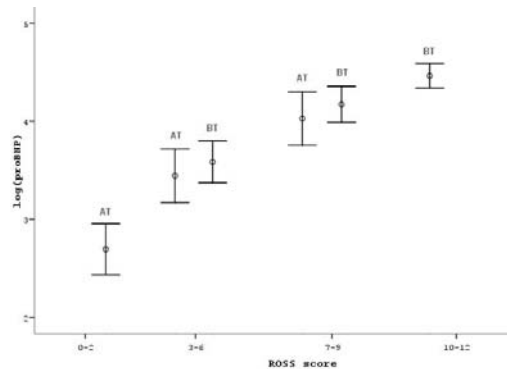


Fig: Ross score and NT-ProBNP levels before and after the treatment for study group

Conclusions:

NT-ProBNP was sensitive in grading of heart failure due to DCMP. It could be an alternative method for diagnosis and treatment of heart failure due to DCMP.