عنوان مقاله:

Diagnostic Value of NT-pro BNP Biomarker and Echocardiography in Cardiac Involvements in Beta-thalassemia Patients

محل انتشار:

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خلاصه مقاله:

Background N-terminal pro–B-type natriuretic peptide (NT-proBNP) is a marker to evaluate the cardiac involvement in thalassemia. We aimed to evaluate conventional and tissue Doppler echocardiography findings and its relation to plasma NT-pro BNP, Ferritin and Iron levels in beta-thalassemia patients. Materials and Methods This study performed on 164 participants equal of major beta- thalassemia patients (n=82), and controls (82 healthy children with normal cardiovascular status). The patients collected from outpatients after applied exclusion criteria. Blood samples were taken from participants in fasting to measure NT- pro BNP, Ferritin and Iron serum. Participants were under echocardiography by Pediatric cardiologist. The level of error considered as 0.05 for data analysis by SPSS version 20.0. Results NT- pro BNP, Iron, Ferritin, left S , left A , right A , EF, FS, left and right A/A ; right and left MPI were significantly different in patients group (P<0.05). FS and EF were higher in younger's and left and right MPI were lower. In higher level of NT-pro BNP right S had converse trends compared with the Iron, its level was higher in patients > 10 years, and FS had different values significantly in lower levels. In lower level of left E/E resulted that FS was significantly higher in the age group < 10 years. Right peak E velocity was significantly higher in younger's in higher level of left E/E . Right E/E was significantly higher in elders in lower level of left E/E (P<0.05). Conclusion The study confirmed that NT-pro BNP increases in thalassemia and association with age and LV diastolic dysfunction. NT-pro BNP with E/E and S were shown diastolic and systolic dysfunction in thalassemia. Therefore, an increased level of ferritin and NT-pro BNP can be used as a marker for the intensification of iron chelation therapy, which reverses iron-induced cardiomyopathy.

کلمات کلیدی:

Children, Cardiac involvement, echocardiography, NT-pro BNP, Beta-Thalassemia