

Evaluation of cardiac functions and myocardial performance index in children with iron deficiency and iron deficiency anemia

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Background: The aim of this study was to evaluate the possible effects of iron deficiency (ID) and iron deficiency anemia (IDA) on myocardial functions.

Materials and Methods: Thirty children with ID and thirty children with IDA were included along with 30 age and sex matched control subjects. Cardiac functions were evaluated echocardiographically with Motion-mode (M-mode), pulsed wave (PW) Doppler and PW tissue Doppler methods.

Results: Left ventricular systolic functions showed no statistically significant differences between groups before and after therapy. Significantly higher values of right and left ventricle MPI were found in ID and IDA groups before therapy. After treatment there was no significant difference in left ventricular values except E/A ratio. However, the right ventricular parameters between ID, IDA and control groups revealed that there were statistically significant differences for E flow velocity, E/A ratio, MPI and modified MPI values both before and after therapy.

Conclusion: MPI and diastolic functional changes are better indicators of myocardial dysfunction due to ID and IDA. Right cardiac chambers are affected by ID and IDA more than left ones and it likely takes more time for right chambers to recover after iron therapy.