

Use of intravenous immunoglobulin in children with inflammatory cardiomyopathy

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Aim: This study is aimed to evaluate the efficacy of intravenous immunoglobulin G (IVIG) as a part of multicomponent therapy of inflammatory cardiomyopathy in children.

Methods: We have enrolled 24 consecutive patients with inflammatory cardiomyopathy, 16 (66,7%) male, 8 (33,3%) female. Mean age $10,1 \pm 2,4$ (5-17,11) years.

Patients underwent a complete history, physical examination, laboratory studies (including thyroid function, CK, CK-MB, LDG, Troponin I, proBNP, virological and immunologic profile), echocardiography, ECG, Holter monitoring (HM), cardiac MRI, Positron emission tomography (PET) using 18F-fluoro-2-deoxyglucose (FDG). Endomyocardial biopsy was performed according to indications and physician's decision. All patients with inflammatory cardiomyopathy were divided into 2 groups: with decreased left ventricular ejection fraction (LVEF) – 20 (83,3%) and without decreased EF - 4 (16,7%). All were hospitalized with NYHA class I to III heart failure. Cardiac arrhythmias were detected in 10 patients (41,7%).

All patients received IVIG in a total dose of 2 g/kg (0.4 g / kg, N. 5) and standard CHF therapy.

Results: Long-term follow up after the course of IVIG was $19,5 \pm 6,1$ (6-24) months.

Normalization of the level of CK-MB in 7 out of 15 patients (46.2%) after the treatment.

45% (9/20) patients demonstrated an improvement in LVEF; 45,8% (11/24) decrease in left-ventricular dimensions; 8,3% (2/24) demonstrated the progressive increase of dilatation of the chambers and the decrease in EF, the remaining patients maintained a stable cardiac function parameters. The percentage of patients who improved by at least 1 NYHA class at 6-24 months was 46%.

Among patients with arrhythmias on initial examination, 8 out of 10 showed no cardiac rhythm disturbances during follow-up.

Conclusion: Intravenous Immune Globulin in the Therapy of children with inflammatory cardiomyopathy appears as an effective and safe option in addition to supportive treatment of heart failure.