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The complex monitoring for diagnostic early heart rejection after transplantation

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Introduction: Endomyocardial biopsy is a standard diagnostic tool for detection of graft rejection. However, it is known, that endomyocardial invasive biopsy (EMB) is not safe and can entail serious complications.

Objective: Aim of this study is to assess clinical and labor data with TD-indexes on revealing the heart rejection after transplantation.

Materials & Methods: Since August 2011, there were 48 heart transplantations performed (10 are women in the age of 41 ± 13.8 years from the donors of 42.5 ± 13.5 years old. The 1st group-33 patients (68.7%), which had undergone EMB and in 2nd group-15 (31.2%) patients had not undergone EMB. All patients from both groups was performed of laboratory indicators (included CRP) and echocardiography (2D echo in a resting state, tissue Doppler (TDI) in a resting state (PW-systolic parameters S velocity, myocardial strain) daily till the discharge and then in I, III, VI month.

Results: There were no significant differences evidenced in both groups (I/II groups) on basic results of leukocytes, lymphocytes and CRP analysis. One patient from the 2nd group after 19 month after TX had nonspecific clinical symptoms (palpitation and general fatigue), high level CRP (1.94 mg/l) and abnormal tissue Doppler (S' laterals 3.8 cm/c. S'medialis 3.9 cm/c. S'RV 3 cm/c.). And concentration of tacrolimus was low (6.7 ng/ml). We estimated this condition as graft rejection. After 10 days of timely administration of pulse therapy with solumedrol (1g per day i/v) and increased concentration of tacrolimus(13.8 ng/ml) improvement of clinical status, CRP decreased (0.1 mg/l) and tissue Doppler had better (S'lateralis 8 cm/c. S'medialis 7 cm/c. S'RV 7 cm/c). Patient was discharged after recovery.

Conclusion: Thus, we confirm that clinic, CRP and tissue Doppler (PW-systolic parametres S velocity) when patient has low concentration of tacrolimus can be used as non-invasive diagnostic tool of allograft rejection of patients after heart transplantation.

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