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RISK STRATIFICATION FOR SUDDEN CARDIAC DEATH AFTER SEPTAL MYECTOMY

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Main Text

Purpose. The aim of this study was to determine the long-term outcomes (all-cause mortality, sudden cardiac death (SCD), and incidence of appropriate and inappropriate implantable cardioverter defibrillator (ICD) therapy) after extensive left ventricular septal myectomy in patients with diffuse-generalized form of obstructive hypertrophic cardiomyopathy (HOCM).

Method. This study included 54 consecutive patients with diffuse-generalized form of HOCM treated with either the extensive left ventricular septal myectomy (group A) or medical therapy (group B). Group A consisted of 22 patients (50.1±11.8 y.o., 11 females, 1 LEOPARD syndrome) and group B consisted of 32 patients (43.9±15.1 y.o., 16 females, 1 Danon disease). All patients underwent ICD implantation. The risk of SCD was assessed for each patient in group A before and 1 year after surgery and in group B before ICD implantation using standard "HCM Risk-SCD" calculator.

Results. The mean follow-up period was 2.5±2.2 years. Risk of SCD before and after procedure amounted to 4.0±1.9 and 1.6±0.6 ($p<0.05$) in group A and 4.4±2.8 in group B, respectively. At 1 year after surgery in group A thickness of interventricular septum and the left atrium decreased from 19±3 to 15±2 mm and 45±4 to 42±3 mm, respectively. The peak systolic pressure gradient in the outflow tract of the left ventricle decreased from 76±6 to 20±3 mm Hg. During the observation period 1 patient with LEOPARD syndrome died probably from electrical storm (group A) and 1 patient died from unknown cause (group B). The overall mortality was 4.5% in group A and 3.1% in group B ($p=0.08$). Appropriate ICD therapy was lower (4.5% vs 6.3%; $p=0.04$), but inappropriate ICD therapy was higher (9.1% vs 3.2%; $p=0.03$) in group A. All episodes of inappropriate ICD therapy were caused by very fast conducted atrial fibrillation.

Conclusions. Patients with diffuse-generalized form of HOCM who are treated with extensive left ventricular septal myectomy have good survival and low SCD risk, similar to that of patients with non-obstructive HCM. In addition patients in surgery group had an increased incidence of inappropriate ICD therapy.