

Introduction: Hypertrophic cardiomyopathy (HCM) is a genetic cardiac disease and defined by the presence of unexplained left ventricular hypertrophy (LVH). Vascular alterations are frequently associated with HCM including microvascular and/or peripheral endothelial dysfunction. This study was designed to evaluate echocardiographic ascending aortic elastic properties and Arteriograph-derived pulse-wave velocity (PWV) and augmentation index (Aix) in HCM. **Patients and Methods:** This study comprised 38 patients with typical features of HCM. Their results were compared to 20 hypertensive patients with LVH and 23 controls. Systolic and diastolic ascending aortic diameters were recorded in M-mode at a level of 3 cm above the aortic valve from a parasternal long-axis view. The following echocardiographic aortic elastic properties were measured from aortic data and forearm blood pressure values: aortic strain, distensibility, and stiffness index. Arteriograph-derived PWV and Aix were also measured. **Results:** Aortic stiffness index (18.4 ± 17.6 vs. 6.88 ± 3.63 , $p < 0.05$), PWV (9.44 ± 4.08 vs. 7.97 ± 1.20 m/sec, $p < 0.05$) and Aix (-24.9 ± 32.6 vs. -41.4 ± 24.3 , $p < 0.05$) were increased, while aortic strain (0.061 ± 0.053 vs. 0.100 ± 0.059 , $p < 0.05$) and aortic distensibility (1.94 ± 1.68 cm²/dynes 10(-6) vs. 3.08 ± 1.77 cm²/dynes 10(-6), $p < 0.05$) were decreased in HCM patients compared to controls. Aortic elastic properties of hypertensive patients with LVH showed similar alterations to HCM patients. **Conclusions:** Abnormal echocardiographic aortic elastic properties and Arteriograph-derived PWV and Aix could be demonstrated in HCM patients compared to matched controls.

EFFECTS OF CUSTODIOL N IN HEART TRANSPLANTATION

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Background: At present, heart transplantation is the preferred treatment for terminal heart failure. Currently the maximal safe ischemic conservation time of donor organs in heart transplantation (HTX) is 4h, which severely limits the number of successful HTXs. In our study we examined the possibility of prolonged ischemic conservation times using the newly developed organ preservation solution Custodiol N in a canine model of HTX. **Methods:** We performed orthotopic HTXs in dogs. The donor hearts were stored in the old Custodiol or new Custodiol N solutions for 8 and 12h. Left ventricular (LV) pressure-volume analysis was performed at baseline and 2h after initiation of reperfusion. Arterial pressure and coronary blood flow were continuously recorded. Tissue samples were taken from both native and transplanted hearts for histology and biochemical analysis. **Results:** Hearts stored in Custodiol showed no contractile function after implantation, confirming the inability of the old solution to protect the heart against the deleterious effects of prolonged ischemia. In the groups of the new Custodiol N solution we observed spontaneous return of cardiac contractions. Furthermore, LV contractility did not differ significantly from baseline ([end-systolic pressure-volume relationship, mmHg/ml]; 3.19 ± 0.61 vs. 2.97 ± 0.63 12h). We found a higher myocardial level of ATP and less severe tissue injury in the Custodiol N groups compared to Custodiol. **Conclusion:** In the light of our results, with the use of the novel Custodiol N the currently achievable 4h of safe ischemic storage in HTX could be increased 3-fold, up to 12h. (This work was supported by TÁMOP-4.2.2-08/1/KMR-2008-0004, TÁMOP-4.2.2./B10/1.-2010-0013.)

CHARACTERISTICS OF PATIENTS WITH ACUTE HEART FAILURE AND ACUTE CORONARY SYNDROME

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Introduction: Acute heart failure (AHF) and acute coronary syndrome (ACS) are frequent and serious cardiovascular diseases. **Background:** Analysis of characteristics of patients admitted for AHF and for ACS during night-shift's hours. **Methods:** In the period October to December 2008 there were examined 1052 patients and 302 patients were admitted. **Results:** 45 patients (15%) were admitted for AHF and 34 patients (11%) for ACS. Mean age was 76 years. Men were hospitalized more frequently (58% vs. 42% women). Women were older (78 vs. 70 years). The most common type of AHF was acute decompensation of chronic heart failure (82%), less often pulmonary oedema (10%) and a new acute heart failure (8%). The most common cause of acute decompensation of chronic heart failure were pneumonia (30%). The characteristic of patients admitted for ACS: 73% admitted for NSTEMI with a mean age 69 years, 24% admitted for unstable angina (mean age 64 years) and 3% of patients were admitted for STEMI. The most common cardiovascular comorbidities: arterial hypertension (70% patients with AHF vs. 68% patients with ACS), coronary artery disease (54% vs. 48%), dyslipidemia (31% vs. 25%), noncardiovascular comorbidities: diabetes mellitus type 2 (40% patients with AHF vs. 35% patients with ACS), chronic kidney disease (25% vs. 21%), anemia (22% vs. 17%). **Conclusion:** AHF was more frequent cause of hospitalization than ACS. Patients admitted for AHF (compared with ACS) were older and polymorbid.