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Mortality risk factors in patients from a heart transplantation waiting list
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Topic(s):
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Purpose. To study clinical differences of chronic heart failure (CHF) patients who were included in a heart transplantation waiting list (HTx WL) and to estimate their survival.

Methods. We retrospectively analyzed HTx WL data that was collected from 2010 to 2017 and included 151 patients: mean age 47.4±12.8 yrs, male – 113 (75%), BMI – 24.5±4.5 kg/m², LVEF (Simpson) 20.8±7.9%, LVEDV - 266±110 ml, TAPSE – 1.3±0.5 cm, pulmonary vascular resistance (PVR) – 3.5±1.5 W.U., mean pulmonary artery pressure (PAP) - 32±13 mm Hg. Causes of CHF were: IHD – ? 61 (40%), DCM – 66 (44%), non-compacted myocardium – 9 (6%), transferred myocarditis – 4 (3%), RHD – 3 (2%) and others – 8 (5%). Patients were divided into 2 groups: 1st group – survivors in a HTx WL (n=110), 96 of patients underwent heart transplantation (HTx) and 14 of them improved (n=14); 2nd group – patients who died in a HTx WL (n=41). Data were analyzed by using the Statistical Package «STATISTICA 10.0» (StatSoft Inc., USA).

Results. The duration of stay in a HTx WL was 96 (range 31-192) days and deceased patients spent less time in a HTx WL than survivors (37.0 vs. 115.5 days, ?=0.004). In 17 (41%) patients death from the moment of inclusion in a HTx WL occurred within 1 month. We found the following differences in deceased patients: lower incidence of IHD (?=0.03) and more frequent occurrence of pulmonary embolism (PE), CHF class IV (/? <0.001) and inotrope-dependent patients (?<0.001). In patients who died during their 1st month in a HTx WL a greater degree of mitral regurgitation (MR) was found than in those who died in long-term follow-up (? =0.036). In a severe CHF decompensation, survival depended on the urgent implantation of mechanical circulatory support (MCS) or HTx. From 2010 to 2011 the frequency of CHF surgical treatment increased from 20% to 55% and was on the same level from 2012 to 2014 (?=0.001) and during the following years. Moreover, in 2015-2017, compared with 2010-2011, patients' mortality significantly decreased (Cox’sF-Test: ?=0.04). An active optimization of drug therapy made it possible to achieve a significant increase in the survival of patients with status 1B of UNOS compared with patients who did not receive ACE inhibitors / ARA or beta-blockers (p=0.0007 and p=0.009, respectively).

Conclusion. In our Centre HTx WL mortality for the period of 2010-2017 decreased what can be associated with an active use of CHF surgical treatment as a bridge-to-transplantation and optimal drug therapy. HTx WL mortality was significantly higher in patients with CHF class IV, status 1 UNOS and the development of acute decompensation of advanced CHF. The highest mortality is due the first month after inclusion in HTx WL. It is associated with the severity of MR and no opportunity for urgent HTx and MCS implantation.
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