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Abstract Preview

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Title : The significance of the level of triiodothyronium in the diagnosis of the syndrome of "low triiodothyronine" in heart failure

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Heart failure (HF) is an important issue in cardiology. Some patients with HF have the low T3 syndrome (LT3S). There is no consensus regarding the criteria for determining LT3S.
The purpose is to study the features of LT3S determination in HF and its relationship with the disease course.
Materials and methods. A total of 157-patients with HF and postinfarction cardiosclerosis were examined. At the I stage, all patients were divided into 2 groups: I – 122 patients with normal level of free T3f, T4f and thyroid-stimulating hormone (TSH); II – 35 patients with LT3S (T3f≤2.5 pmol/l and normal levels of T4f and TSH). At the II stage, 129 patients without LT3S were included into
group I and 28 patients with LT3S (T3f ≤2.07 pmol/l) – into group II. Serum levels of TSH, T3f, T4f, reverse T3 (T3r) were determined. Echocardiography was performed. HF course was studied during 2 years.
Results. The frequency of LT3S (T3f <2.5 pmol/l) among patients with HF is 22.3 %. The risk of rehospitalization of patients according to ROC-analysis increases at the intersection of the point T3f ≤2.07 pmol/l (P = 0.0017). At T3f ≤2.07 pmol/l the frequency of LT3S is 17.8 %. Patients with LT3S (T3f ≤2.07 pmol/l) are younger (2.5 years younger; P = 0.039), have larger end-diastolic size (by 4.8 %; p P = 0.010) and volume (by 10.2 %; P = 0.012), end-systolic size (by 8.8 %; P = 0.003) and volume (by 20.1 %; P = 0.006), lower left ventricle (LV) ejection fraction (by 9.5 %; P = 0.033), than the patients without LT3S. The relative risk of rehospitalization in patients with LT3S (T3f ≤2.07 pmol/l) is 2.224 (P < 0.05).
Conclusions. The frequency of LT3S (T3f <2.5 pmol/l) among patients with HF is 22.3 % at level of T3f ≤2.07 pmol/l – 17.8 %. The risk of rehospitalization in patients with HF increases at intersection of the point T3f ≤2.07 pmol/l. Patients with LT3S (T3f ≤2.07 pmol/l) are younger, have larger LV dilatation and lower ejection fraction, higher frequency of coronary intervention and rehospitalization
risk than the patients without LT3S.