THE SIGNIFICANCE OF THE LEVEL OF TRIIODOTHYRONIUM IN THE DIAGNOSIS OF THE SYNDROME OF "LOW TRIIODOTHYRONINE" IN HEART FAILURE

S. Pyvovar, I. Rudyk, O. Medentseva
GI "L.T. Mala NIT NAMSU“ , Kharkiv, Ukraine

Purpose

To study the features of the low T_3 syndrome (LT_3S) determination in heart failure (HF) and its relationship with the disease course.

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 thyroidstimulating hormone (TSH); II – 35 patients with LT3S ($T_{3f} \leq$ 2.5 pmol/l and normal levels of T_{4f} and TSH).

Serum levels of TSH, T_{3f}, T_{4f}, reverse T_3 (T_{3r}) were determined. Echo-cardiography was performed. HF course was studied during 2 years. At the II stage, 129 patients without LT_3S were included into group I and 28 patients with LT_3S ($T_{3f} \leq$2.07 pmol/l) – into group II.

Results

The frequency of LT_3S (T_{3f} <2.5 pmol/l) among patients with HF is 22.3 %. The risk of rehospitalization (RH) of patients according to ROC-analysis increases at the intersection of the point $T_{3f} \leq$2.07 pmol/l (p = 0.0017). At $T_{3f} \leq$ 2.07 pmol/l the frequency of LT_3S is 17.8 %. Patients with LT_3S ($T_{3f} \leq$2.07 pmol/l) are younger (2.5 years younger; p=0.039), have larger end-diastolic size (by 4.8%; p=0.010) and volume (by 10.2%; p=0.012), end-systolic size (by 8.8%; p=0.003) and volume (by 20.1%; p=0.006), lower left ventricle (LV) ejection fraction (by 9.5%; p=0.033), than the patients without LT_3S. The relative risk of rehospitalization in patients with LT_3S ($T_{3f} \leq$2.07 pmol/l) is 2.224 ($p < 0.05$).

Conclusions

The frequency of LT_3S (T_{3f}<2.5 pmol/l) among patients with HF is 22.3% at level of $T_{3f} \leq$2.07 pmol/l – 17.8%. The risk of RH in patients with HF increases at intersection of the point $T_{3f} \leq$2.07pmol/l. Patients with LT_3S ($T_{3f} \leq$2.07 pmol/l) are younger, have larger LV dilatation and lower ejection fraction, higher RH risk than the patients without LT_3S.