

## **INTERRELATION OF FREE THYROXINE WITH CLINICAL COURSE OF ISCHEMIC HEART DISEASE ASSOCIATED WITH HYPOTHYROIDISM ACCORDING TO COGNITIVE MODELING**

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Objective: to study the relationship between the level of thyroid hormones and clinical, vegetative, structural and functional characteristics of heart affections, activity of immune inflammation markers, endothelial dysfunction by means of cognitive modeling. Materials and methods: The study involved 60 patients with coronary heart disease with concomitant hypothyroidism (HT) (the average level of TSH  $13,05 \pm 3,30$  mU/ml; the average level of FT<sub>4</sub>  $11,45 \pm 0,72$  pmol/L, the median age of the patients - 60,5 (54,0; 64,5) years, of whom 16 (27%) are men and 44 (73%) women). Comprehensive clinical examination of patients, considering their complaints, anamnesis, objective and additional (laboratory and instrumental) research methods according to the generally accepted standards was conducted. The following methods of research were used: general clinical examination - to assess the clinical manifestations of disease; biochemical examination - to determine the level of total cholesterol, triglycerides, low- and high-density lipoproteins; immune-enzyme examination - to determine the level of C-reactive protein (CRP) (Biomerica, USA), tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) (eBioscience, Austria), neopterin (IBLInternational, Germany), endothelin-1 (ET-1) (Biomedica, Austria), an plasminogen-1 inhibitor or tumor activator (PAI-1) (Technoclone, Austria), thyroid stimulating hormone (TSH), free thyroxine (FT<sub>4</sub>); instrumental examination - two-dimensional and pulse-wave Doppler echocardiography ("SONOACE" 8000SE company «Medison», Korea), daily monitoring of ECG by Holter (Kardiosens K, Ukraine) under the standard technique - to determine the characteristics of structural and functional changes in the heart, heart rhythm variability rate, heart ectopic activity, severity of myocardial ischemia. Results: The carried out correlation analysis showed that in patients with coronary heart disease, comorbid with hypothyroidism, the value of FT<sub>4</sub> had a correlation with the concentration of neopterin ( $r=-0,34$ ;  $p<0,05$ ) and PAI-1 ( $r=-0,52$ ;  $p<0,05$ ), left ventricular myocardium mass (LVM) ( $r=-0,50$ ,  $p<0,01$ ), left ventricular myocardium mass index (LVMI) ( $r=-0,44$ ;  $p<0,05$ ), early and late diastolic filling velocities of the left ventricle and their ratio ( $r=+0,50$ ,  $r=-0,42$  and  $r=-0,41$ , correspondingly,  $p<0,05$ ), standard deviation of normal-to-normal intervals (SDNN) in the active ( $r=+0,45$ ;  $p<0,05$ ) and passive ( $r=+0,36$ ;  $p<0,05$ ) periods, TC ( $r=-0,33$ ;  $p<0,05$ ). The performed regression analysis confirmed the most significant correlation relations and determined their direction, also allowed to build the cognitive model of the clinical course of ischemic heart disease in patients with hypothyroidism, where the FT<sub>4</sub> acts as a connecting link. Conclusions: Correlation and regression analyzes demonstrates clinical and pathogenetic role of FT<sub>4</sub> level in the advance of structural and functional heart disorders, ischemic and autonomic changes, immune inflammation markers and endothelial dysfunction in CHD patients with concomitant hypothyroidism.

## **CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS MALARIA ACCORDING TO THE MATERIALS OF ZRIH 2000-2016**

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At the moment, 3.2 billion people are at risk of malaria - about half the world's population (WHO, 2016). Purpose: to study the morbidity of malaria according to the materials of the ZRIH. Since 2000-2016, 23 patients with a diagnosis of "malaria" were under observation in the ZRIH. The diagnosis was made on the basis of clinical and epidemiological data and the results of parasitological research. All patients arrived from malaria endemic regions, but mostly from Africa 20 (87%). *P. falciparum* malaria diagnosis set in 16 (69.6%) patients, *P. ovale* - in 4 (17.4%), *P. vivax* - 3 (13%). Among the patients were males (95.7%) older age groups - 14 (61%), employees of the enterprises, among the young - students of university. Active malaria was detected in 4 (17.4%) patients, the rest - after the development of the disease. Only 7 (30.4%) patients received a full course of chemoprophylaxis. Clinical manifestations of the disease were characterized by typical paroxysms for malaria, with the development of multiple organ failure in 75% of patients with *P. falciparum*. By course of disease, patient's with 3-day malaria was as: mild - in 4 (57.1%), relapsed - in 2 (28.6%), moderate - in 1 (14.3%) patient. In 12 (75%) patients with *P. falciparum* noted severe course of disease with development of complications, such as: kidney and liver