

## **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

failure, cerebral coma. In 25% of patients with repeated malaria disease in history, the disease is mild. All patients received etiotropic, pathogenetic therapy and were discharged with recovery. Thus, visit of endemic regions of malaria, lack of chemoprophylaxis are risk factors and severe course of the disease.

### **THE RESULTS OF USING SCLERAL CONTACT LENSES IN PATIENTS WITH KERATOCONUS IN POSTOPERATIVE PERIOD**

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Department of ophthalmology Clinic of modern ophthalmology «VISUS» Relevance. Correction of refractive errors, especially irregular astigmatism in patients with keratoconus who were operated by the method of polymerization of cornea (Corneal cross lincing (CCL), is an urgent problem in modern ophthalmology. Using the standard tools of optical correction (glasses, soft contact lenses) couldn't improve the corrected visual acuity in these patients, which determined the necessity of studying the outcome of using scleral contact lenses (SCL) in the postoperative period. Aim of research. To study the effectiveness of using SCL in patients who were operated due to keratoconus with refractive errors, including irregular astigmatism. Materials and methods. We performed the analysis using SCL in 21 keratoconus patients (25 eyes) by the CCL method, aged 18 to 40 years ( $28 \pm 3,5$ ), 12 men (14 eyes, 56%) and 9 females ( eyes 11, 34%). All patients had refractive error and irregular astigmatism and were observed for one year on the background of using SCL. Treatment efficiency was recorded according to visometry, optical coherence tomography (Visant OCT). Results. All patients had improvement in their visual acuity. Before using SCL visual acuity ranged from 0.01 to 0.3, representing an average of  $0,15 \pm 0,05$ . After using SCL, corrected visual acuity was  $0,65 \pm 0,15$ . In all cases there were no features of planting of SCL according to the data of optical coherence tomography. In one case, there was erosion of cornea on one eye due to breaking the rules of using lenses by this patient, there were no other complications. Conclusions. The use of SCL is highly effective method for optical correction in patients operated concerning keratoconus, it enabled us to achieve a highly corrected visual acuity , proving the ineffectiveness of other methods of correction.

### **BRONCHIAL TUBERCULOSIS IN PATIENTS WITH NEWLY DIAGNOSED TUBERCULOSIS TREATMENT FAILURE FEATURES**

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Aim: To evaluate the bronchial tuberculosis features in patients with newly diagnosed tuberculosis treatment failure according to clinical, radiological and bacteriological changes. Materials and methods. 49 patients with newly diagnosed tuberculosis treatment failure were analyzed. Patients were divided into 2 groups. The 1-st group included 15 patients with bronchial tuberculosis; the 2-nd group had 44 patients without bronchial tuberculosis. Anamnesis, clinical course features, X-ray and bacteriological examination data were evaluated. Results. It was determined that in patients with bronchial tuberculosis the duration of symptoms of the disease was less than 3 months in most patients (10 % of patients in comparison with patients without bronchial tuberculosis: 38,2 %, ( $0,05 < p < 0,1$ )). It was found that the body mass index was greater in patients of the 2-nd group:  $19,5 \pm 0,3 \text{ kg/m}^2$  in comparison with  $21,6 \pm 1,4 \text{ kg/m}^2$  in 1-st group, ( $p < 0,05$ ). It was founded from anamnesis, that smokers predominated in group 2: 97,7 % versus 66,7 %, ( $p < 0,005$ ). Among 1-st group patients the proportion of limited lung lesions was 33,3%, among 2-nd group – only 4,5 %, ( $p < 0,05$ ). There was a tendency to larger destruction size in 2-nd group patients: 54,5 % of patients had destruction size  $\geq 4 \text{ cm}$  in comparison with 26,7 % of 1-st group patients ( $0,05 < p < 0,1$ ). Conclusions: Patients with newly diagnosed tuberculosis treatment failure who have bronchial lesions are less likely to smoke cigarettes; they used hospitalized earlier; more often than patients without bronchial lesions have a limited pulmonary process with smaller sizes of destruction in the lungs.