

throughout life. The moderate symptoms of reflux affect psycho-emotional health, reduce productivity, so this problem is the cause of significant economic and social losses for many countries. Unfortunately, GERD is often diagnosed at the stage of complications.

The aim was to study the features of the clinical course of GERD, features of endoscopic changes of the esophageal mucosa, pH-metry and changes in gastric motility depending on the type of reflux. 60 patients with GERD were examined. The average age was  $44.5 \pm 5.3$  years. The main group consisted of 35 patients with GERD with concomitant acid reflux, the comparison group - 25 patients with alkaline reflux. The comprehensive study included a clinical examination, pH- metry, endoscopic, radiological examination.

Among the examined patients with GERD with acid reflux 60% were men, and in the group of patients with alkaline reflux female patients predominated - 76%. With acid reflux disturbed heartburn (85.7%), vomiting (71.4%). In the clinical picture of GERD with alkaline reflux more often noted: the feeling of bitterness in the mouth (80%), the feeling of a lump in the mouth (60%). Patients with GERD with alkaline reflux (40%) were more often diagnosed with concomitant lesions of the pancreatic-biliary system and obesity I-II.

In most of the examined pathological changes of the lower mucous membrane were revealed. In patients with acid reflux the pH in the esophagus was  $< 4.0$ , in the group of patients with alkaline reflux the pH was  $> 7.5$ . Reflux lasting more than 5 minutes was observed in 31.4% of patients with acid reflux, in 36% of patients with alkaline.

The non-erosive form of GERD was more observed in patients with acid reflux - 11 (59.3%). The erosive form of GERD was observed more often with alkaline reflux in 14 patients (66.7%): reflux esophagitis grade A (38.1%), grade B (19.1%), grade C (9.5%) patients.

In GERD with acid reflux, a persistent slowing of gastric evacuation is caused by persistent pilospasm. Slowing of gastric evacuation is more pronounced in patients with GERD with alkaline reflux, which can be explained by slowing of motility of the stomach and the presence of duodenostasis.

Thus, the peculiarity of the clinical course of gastroesophageal reflux disease is due to the presence of a certain type of reflux and is characterized by specific etiological factors and pathogenetic mechanisms of development, polymorphism of clinical symptoms, which worsens the psychosomatic state and quality of life of patients.

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## **CHANGES OF AORTIC STIFFNESS IN PATIENTS WITH ARTERIAL HYPERTENSION AND CONCOMITANT DIABETES MELLITUS TYPE 2**

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The aim of the study was to discover the peculiarities of aorta remodeling in patents with arterial hypertension and concomitant diabetes mellitus type 2. Additionally, the trends in changes of aortic rigidity depending on the state of the left ventricle diastolic dysfunction were analyzed. 103 patients with hypertension and concomitant diabetes mellitus type 2 were examined. The basic indexes of transmitral velocity ( $V_e$ ,  $V_a$ ,  $V_e/V_a$ , IVRT) and indexes of aortic compliance at the root (Cr), ascending part (Cas) and the arch (Ca) in accordance to its diameters in the systole (Dmax) and diastole (Dmin) measured during 3 cardiac cycles were observed.

The features of remodeling, elastic and density characteristics of aorta in patients with arterial hypertension and DM type 2 were examined. It has been proved that the reliable increase of diameters of root ascending aorta and aortic arch occurs in patients with hypertension and concomitant diabetes mellitus type 2, and in people with left ventricle hypertrophy the more considerable increasing of aortic diameter was set. Structural changes at aortic remodeling were accompanied by growth both maximal, and minimal diameters at the ascending aorta and its arch level. The reliable decline of coefficient tensile strength in aorta is verified in patients with hypertension and concomitant diabetes mellitus type 2.

Concomitant diabetes mellitus 2 influenced on the reliable increase of diameters of root

( <0,05), ascending aorta ( <0,01), and arc ( <0,001). Data calculated in ANOVA educed an increase sequence of changes of diameter values (from 3,3 toward 3,59) allowed to suggest a hypothesis about existence of linear dependence of changes of diameters of aorta root depending on progress diastolic dysfunction types. The method of "Up - and - down - runs test" ( <0,01) proved the non-random character of sequence of diameters' changes of aorta root accordingly worsening of diastolic dysfunction. The result of one-sided test of Mann-Kendall ( <0,01) specifies that the increase sequence of diameter of aorta roots has linear character due to diastolic dysfunction. A result is presented as a formula:  $value = a + [b \times (a \text{ grade is in a sequence})]$ , where  $a = 2,955$ ,  $b = 0,115$  (95 C = 0,085 - 0,250),  $r = 0,02$ . This regression equation gave an opportunity to expect the percent of relative increase of size of diameter dependently to the transition from one type of diastolic dysfunction to other, that equaled 4,67 % (95 CI = 2,20 - 7,21 %).

The study conclusion can be determined as following: arterial hypertension with concomitant diabetes mellitus type 2 is accompanying with structural changes of aorta with increasing of the diameters and decline of aortic compliance. This process could be described by specific linear regression model.

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### **COVID-19 INFECTION AND AUTOIMMUNE VASCULITIS: CLINICAL CASE**

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Since the emergence of SARS-CoV-2 worldwide, various manifestations and concurrent diseases have been reported, including COVID-19-associated Kawasaki-like multisystem inflammatory syndrome in young patients. In hospitalized patients with COVID-19, myocardial injury is observed in between 23% and 27.8% of cases.

A female patient T., 32 years old, appealed to the clinic in February 2021 with complaints about intensive constricting pain behind the sternum, spreading into the left hand, shortness of breath and acute weakness. 2 months previously, in the beginning of December the diagnosis of COVID-19 infection was confirmed by polymerase chain reaction (PCR) for SARS-CoV-2. She was treated with COVID-19 in infection department during 2 weeks by standard protocol. She has Guillain-Barré syndrome in anamnesis.

A week before the present hospitalization, she suffered from fever (up to 40 °C), which reiterated her into the hospital. Over the past 3 days, there began to show the constricting pain in rest, which become intensified by any physical activity, shortness of breath, acute general weakness. The patient's general condition demonstrated a moderate severity. Consciousness is clear, oriented in space and time. Peripheral lymphatic nodes are not palpable. Bone-articular system was without visible changes. No peripheral edema was present. There were changes in acute phase inflammatory indicators: ESR was 55 mm/hour, a CRP - 48 mg/l, Fibrinogen plasma content - 7.6 g/l, D-dimer - 345 ng/ml. On the ECG the ST-segment elevation in leads II, III, AVF is recorded. Troponin I was demonstrated a weak reaction (+ \ -). The echocardiography data showed moderate enlargement of the dimensions of the both ventricles, hypertrophy of the LV walls, aorta is not expanded, and the structure of valves is seen without visible changes. The myocardial contractility is reduced, the EF is 50%. The hypokinesia of all walls of LV, with more reliable changes of interventricular septum (IVS) were observed.

On the 3rd day, despite the treatment, the patient's condition did not improve, the complaints were preserved, hyperthermia appeared, there was not dynamical changes of the signs of acute myocardial infarction appeared on ECG. The next diagnosis was established: Kawasaki disease of adult, with recurrent course and severe activity. Coronaritis (inflammatory coronary damage) with the development of multiple aneurysms of left main coronary artery, anterior descending coronary artery, diagonal branches, Left circumflex coronary artery, right main coronary artery, Posterior descending artery. Basal non-Q myocardium infarction, HF II FC. The combination of anticoagulants (enoxaparin), -blockers (metoprolol), antithrombocyte agents (clopidogrel and aspirin) used in the treatment represented standard patient scheme management with acute coronary