

Clinical characteristics of patients with disorders of carbohydrate metabolism in combination with cardiovascular pathology against COVID-19

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The presence of comorbid diseases of the cardiovascular and endocrine systems determines the severity of the course, features of treatment and prognosis in patients with COVID-19. The study of the features of clinical parameters of this combined pathology will allow to improve the approaches to the strategy and tactics of such patients' management.

Aim. To discover the nature of the changes in clinical indicators of patients with diabetes mellitus (DM) in combination with cardiovascular disease (CVD) on the background of COVID-19.

Research methods. The archival material of 168 patients with COVID-19 was studied and analyzed where a combination of DM and CVD (arterial hypertension (AH), IHD) was found in 32 (19 %) patients aged between 37–88 years (mean 66.09 ± 1.79 years old), among whom there were 20 women (62.5 %) and 12 men (37.5 %). The diagnosis of COVID-19 was established according to the WHO clinical guideline «Clinical management of COVID-19: interim guidance» by PCR test. Standard laboratory and instrumental tests were performed: CBC, CUA, blood glucose test, biochemical blood test, electrocardiography, SpO_2 determination, radiography, CT. Statistical processing of the obtained research results was performed using the application program package «Microsoft Excel» and «Statistica-Stat-Soft, USA».

Results. It has been found out that 32 patients with COVID-19 in combination with DM and CVD (19 % of the total) had moderate course of the disease in 59.4 %, severe – 34.4 %, critical course of COVID-19 – in 6.2 % respectively. According to radiography and CT all patients have verified pneumonia. By localization, bilateral polysegmental pneumonia was diagnosed in 40.6 %, bilateral lower-partial pneumonia – 34.4 %, right-sided lower-partial – 12.5 %, left-sided polysegmental and lower-partial – 6.2 %, respectively. The average level of SpO_2 was 91.8 ± 1.57 . Such patients have a history of chronic coronary heart disease and arterial hypertension I (6.3 %), II (78.1 %) and III (15.6 %) stages according to ESC/ESH 2018 of which stage 2 of arterial hypertension – 38 %, stage 3 – 62 %. Stratification of the risk level of such patients revealed a high risk in 56 %, very high – 44 %. Heart failure (HF) of clinical stage I was observed in 12.5 %, CH II A – 71.9 %, CH II B – in 15.6 %. Newly diagnosed type 2 DM was registered in 28 % of such patients, DM 2 in the stage of subcompensation – 62 %, decompensation – 38 %.

Conclusions. The severity of COVID-19 correlates with the degree of compensation for diabetes, the severity of arterial hypertension, heart failure. Recommended therapy for diabetes and CVD that includes i-DPP-4, insulin, ACE inhibitors, ARBs, BCC, diuretics, including selective beta-blockers, statins according to the indications, it's pathogenetically justified and appropriate in order to prevent severe complications in this category of patients.