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**PRINCIPLES FOR THE TREATMENT OF CONCOMITANT DISEASES DURING  
PANDEMIA COVID-19**

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**Summary:** Purpose of the study: To study the effect of drugs on the severity and outcome of the disease used in the treatment of patients with concomitant diseases during COVID-19 infection.

**Materials and methods of research.** The study included 453 patients with COVID-19, of which 370 (81.8%) were hospitalized in the infectious diseases hospital of Andijan region and 82 (18.2%) received outpatient treatment.

**Study results and discussion:** 79.8% of patients under observation have concomitant diseases. Due to the regular use of drugs taken by patients with concomitant diseases in the period before infection, it influenced the development and outcome of COVID-19.

**Conclusion:** According to our observations, the majority of patients with COVID-19 have concomitant diseases, among which diseases of the circulatory system predominate. Taking statins in patients with coronary artery disease had a beneficial effect on the prognosis of COVID-19 and was associated with a reduced risk of death.

**Key words:** Covid-19, coronary heart disease, chronic obstruction of the lungs, bronchial asthma, diabetes mellitus.

**Резюме:** Цель исследования: Изучение влияния препаратов на тяжесть и исход заболевания, применяемых при лечении пациентов с сопутствующими заболеваниями в период инфицирования COVID-19.

**Материалы и методы исследования.** В исследование включено 453 больных с COVID-19, из них 370 (81,8%) были госпитализированы в инфекционную больницу Андижанской области и 82 (18,2%) получали амбулаторное лечение.

**Результаты исследования и обсуждение:** У 79,8% больных, находящихся под наблюдением, имеются сопутствующие заболевания. В связи с регулярным приемом препаратов, принимавших больных сопутствующими заболеваниями в периоде до заражения, оказал влияние на развитие и исход COVID-19.

**Заключение:** По нашим наблюдениям у большинства больных с COVID-19 имеют сопутствующие заболевания, среди которых преобладают заболевания системы

кровообращения. Прием статинов у пациентов с ишемической болезнью сердца оказал благотворное влияние на прогноз COVID-19 и был связан со снижением риска смерти.

**Ключевые слова:** COVID-19, ишемическая болезнь сердца, хроническая обструкция легких, бронхиальная астма, сахарный диабет.

**Rezyume.** Tadqiqot maqsadi: COVID-19 infeksiyasi vaqtida hamroh kasalliklari mavjud bemorlarni davolashda qo'llaniladigan dori vositalarining kasallikning og'irligi va natijasiga ta'sirini o'rganish.

**Tadqiqot materiallari va usullari.** Tadqiqotda COVID-19 bilan kasallangan 453 nafar bemor ishtirok etdi, ulardan 370 nafari (81,8%) Andijon viloyati yuqumli kasalliklar shifoxonasiga yotqizilgan, 82 nafari (18,2%) ambulator sharoitda davolangan.

**Tadqiqot natijalari va muhokamasi:** Kuzatuv ostidagi bemorlarning 79,8% hamroh kasalliklar aniqlangan. Infitsirlanishgacha bo'lgan davrda birga hamroh kasalliklarga mavjud bemorlar tomonidan qabul qilingan preparatlarni muntazam ravishda qo'llash tufayli COVID-19 kechishi va oqibatlariga ta'sir ko'rsatdi.

**Xulosa.** Kuzatishlarimizga ko'ra, COVID-19 bilan kasallangan bemorlarning aksariyatida hamroh kasalliklar mavjud bo'lib, ular orasida qon aylanish tizimi kasalliklari ustunlik qildi. Ishemik yurak kasalligi bo'lgan bemorlarda statinlarni qabul qilish COVID-19 prognoziga foydali ta'sir ko'rsatdi va o'lim xavfini kamaytirish bilan bog'liq bo'ldi.

**Kalit so'zlar:** COVID-19, yurak ishemik kasalligi, surunkali o'pka obstruktiviyasi, bronxial astma, qandli diabet.

On February 11, 2020, the World Health Organization (WHO) gave an official name to the virus and the disease it causes. The International Committee on Taxonomy of Viruses named the new virus SARS-CoV-2 (causing severe acute respiratory syndrome) [1]. This name was chosen because, according to the results of a phylogenetic analysis of the genome of the virus, this betacoronavirus is similar to another coronavirus, which is the causative agent of epidemics of severe acute respiratory syndrome identified in 2002-2003 [7]. To date, two types of SARS-CoV-2 have been identified: type L (70% of all strains) and type C (30% of strains), which predominated in China [8]. WHO decided to call the new disease COVID-19 (Coronavirus infectious disease 2019) and the new virus "COVID-19 virus" because the use of the acronyms SARS/SARS, which are associated with severe disease, may lead to an increase in incidence. None of these names replace the official name of the virus assigned by the International Committee on Taxonomy of Viruses [1,3]. The virus that causes COVID-19 has rapidly spread from China to every continent (except Antarctica). As of March 25, 529,600 cases have been confirmed worldwide [6].

With COVID-19, both asymptomatic carriers and those with symptoms, including pneumonia, have an ice-glass-like opacification on CT scans. Changes on computed tomography of the chest organs correspond to the picture of viral pneumonia; more often they are bilateral, accompanied by involvement of the lower lobes of the lungs [2]. Data

from comparative studies of the accuracy and diagnostic yield of different tests for the novel coronavirus are limited to date.

**Purpose of the study:** To study the effect of drugs on the severity and outcome of the disease used in the treatment of patients with concomitant diseases during COVID-19 infection.

**Materials and methods of research.** Our observation included 453 patients with COVID-19, of which 370 (81.8%) were hospitalized in the infectious diseases hospital of Andijan region and 82 (18.2%) received outpatient treatment. The diagnosis of COVID-19 was established for all patients based on polymerase chain reaction (PCR) analysis, clinical examination and computed tomography (CT) of the lungs in 32.4% of cases, general and biochemical examination.

**Research results.** The average age of patients included in the study was 58 years, among them 53.6% were women (average age 59 years) and 46.4% men (average age 57 years). Detection of the disease in older women was statistically significant ( $p < 0.0001$ ). When patients were distributed according to the degree of lung damage (according to CT data): CT 0 - 5.2%, CT 1 - 29.6%, CT 2 - 34.7%, CT 3 - 18.8% and CT 4 - 11.6%. 79.8% of patients under observation have concomitant diseases, the most common concomitant diseases were arterial hypertension - 55.41% of patients, obesity - 35.54%, coronary heart disease - 20.62%, type 2 diabetes mellitus - 17.52%, chronic heart failure - 16.3%, including chronic heart failure functional class I-II (FS) - 10.6%, chronic heart failure III-IV FS - 5.7%, chronic disease kidneys - 7.53%, atrial fibrillation - 6.78%, myocardial infarction - 5.73% and a history of stroke - 4.27%, chronic obstructive pulmonary disease - 4.65%, bronchial asthma - 3.28%, active cancer - 2.12%. 25.28% of patients had one concomitant disease, 33.87% had 2-3 concomitant diseases, 20.63% had 4 or more concomitant diseases. Among the combination of two diseases, the most common combination is arterial hypertension and obesity (26.94%), among the combination of three diseases - hypertension, coronary heart disease and chronic heart failure (12.42%), and among the combination of four diseases - hypertension. The patients had coronary heart disease, chronic heart failure and obesity (4.71%).

Patients with coronary artery disease received statins in 42.78% of cases, and hospitalized 43.81% patients received statins slightly more often than 31.91% outpatients ( $p = 0.03$ ). Patients with coronary heart disease, hypertension, and chronic heart failure received angiotensin-converting enzyme (ACE) inhibitors in 37.15% of cases and angiotensin receptor blockers (ARBs) in 23.51% of cases. In general, the frequency of taking renin-angiotensin system inhibitors by patients with hypertension, coronary heart disease, and chronic heart failure was 60.66%.

Beta-blockers were taken by 42.43% of patients with arterial hypertension, coronary heart disease and chronic heart failure. Hospitalized 35.87% patients received beta blockers more often than 43.20% outpatients ( $p = 0.01$ ). Calcium channel blockers (CBCs) were taken by 19.02% of patients with AF, coronary artery disease and chronic heart failure, while 18.32% of hospitalized patients took them less frequently than 25.08% of outpatients ( $p < 0.001$ ).

Only 26.06% of patients with hypertension received oral anticoagulants, but 23.49% of hospitalized patients received them less often than 66.67% of outpatients ( $p < 0.001$ ). Only 6.63% of inpatients received warfarin, while outpatients did not receive warfarin.

34.07% of patients with type 2 diabetes mellitus received oral sugar-lowering therapy, while 29.70% of inpatients received less than 69.70% of outpatients ( $p < 0.001$ ). It was noted that patients with type 2 diabetes mellitus more often received insulin therapy: short-acting insulins - 33.19%, long-acting insulins - 22.05% of patients. In addition, 36.63% of inpatients and 5.05% of outpatients more often received short-acting insulins ( $p < 0.001$ ).

Among patients with bronchial asthma, 36.90% took inhaled glucocorticosteroids (GCS), of which hospital patients received ICS more often than patients in clinics (3.23% versus 44.53%;  $p < 0.001$ ). 33.62% of patients with chronic obstructive pulmonary disease received ICS and were only treated in hospitals ( $p = 0.02$ ).

**Conclusion.** According to our observations, which included 453 patients, most of them with COVID-19 have concomitant diseases, among which diseases of the circulatory system predominate. In this regard, regular use of medications taken by the patient to treat concomitant diseases in the period before infection will have an impact on the development and outcome of COVID-19. Taking statins in patients with coronary artery disease was found to have a beneficial effect on the prognosis of COVID-19 and was associated with a reduced risk of death.

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