



Indicators of the Hemostasis System in the Blood of Patients with Covid-19 Complicated Hypertension of Both Stages

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Relevance. Currently, the number of complications associated with COVID-19 is continuously increasing worldwide. The issue of predicting the clinical course of the disease in patients on the basis of pathological changes in early and late complications of the disease, including concomitant high-risk diseases, and the selection of drug therapy in accordance with the severity of the course of the disease remains difficult and debatable (Hajizadeh F., 2021; Lloyd-Jones G., 2021). The question of the development of COVID-19, associated with the reaction of the local immune system to SARS-CoV-2, and the role of the oral mucosa in the formation of a pathological condition remains debatable (Huang N., 2021).

At the same time, the role of the oral mucosa in the development of a local inflammatory response in SARS-CoV-2 is rarely mentioned in literature (Czerkinsky C., 2011). It has long been known that secretory immunoglobulin A (sIgA) on the mucosal surface is crucial in the fight against viruses that enter the body through the mucous membrane, and it has been proven that patients with COVID-19 have a relatively high level of the antigen - SARS-CoV-2 sIgA in the oral cavity (Caselli E., 2020).

An analysis of the literature of recent years shows that the study of the effect of COVID-19 on lesions of the oral mucosa in the active stage of the disease and on the immunological and enzymatic composition of the oral cavity, at the same time, still remains the reason for discussion of the correct identification based on the analysis of signs of a local immuno-inflammatory reaction of the oral cavity and the prediction of the clinical course, which requires improvement therapeutic and preventive measures in patients.

The purpose of the study The aim is to study the condition of the oral mucosa and develop therapeutic tactics in patients infected with COVID-19 coronavirus on the background of arterial hypertension.

Results and evacuees. The results of studies of the underlying disease on the oral mucosa and the influence of the patient's age, the presence of chronic diseases, reducing immunity, stress, the severity of COVID-19 previously suffered and the intensity of general therapy carried out at the same time are analyzed. However, a special role in the dynamics of clinical symptoms in the oral cavity is played by the state of the patient's dental status, the relationship between dry mouth and the development of infectious diseases of the oral cavity, which have been studied and commented on on the basis of scientific sources of domestic and foreign researchers.

Dental examination of patients was carried out according to the generally accepted scheme, with disposable kits for each patient individually. In the examined individuals with COVID-19 complicated hypertension of the 1st and 2nd degree (main group), and with COVID-19 of the control group, subjective, objective and functional studies were conducted to determine the condition of the oral cavity organs and establish a diagnosis.

The examination was started with an external examination of the face. At the same time, special attention was paid to the asymmetry of the face, the general appearance of the patient, formations



on the red border of the lips and the presence of swelling. Also, attention was paid to the color, condition of the hair and nails, swelling of the mucous membrane, skin and the presence of pigmentation.

The examination of the tongue was carried out to determine the condition of the papillae and the presence of plaque on the back of the tongue. When examining the vestibule of the mouth and the inner surface of the cheeks, special attention was paid to the moisture content and color of the oral mucosa, as well as the presence of dental prints. The presence of caries and its complications, the presence of fillings, were detected during an examination of the oral cavity.

Dental research was carried out in the following areas: The CPI index of permanent teeth according to Klein, Palmer (1939); determination of the hygienic index of the oral cavity by the Green-Vermillion method (1964); determination of the gingivitis index (PMA) in the modification of Parma (1960).

Determination of the level of cytokines (IL-1, IL-6), lactoferrin and cortisol in the blood and oral fluid It was carried out by the method of solid-phase enzyme immunoassay using a set of reagents from the company "HUMAN" on a MINDRAY analyzer.

To determine the fibrinolytic activity of the vascular wall endothelium, the rate of Hageman-dependent fibrinolysis of blood plasma was determined before and after the cuff test (3-5 minute compression of the shoulder vessels with a cuff). The serum levels of endothelin I and homocysteine were determined by the enzyme immunoassay using the Human kit. Laboratory tests were carried out on an enzyme immunoassay analyzer of the company "ROSH".

The research materials were subjected to statistical processing using parametric and nonparametric analysis methods. Accumulation, correction, systematization of initial information and visualization of the results were carried out in Microsoft Office Excel 2010 spreadsheets. Statistical analysis was carried out using the IBM SPSS Statistics v.23 program

The indicator in the group of patients (n=18) with COVID-19 complicated stage I hypertension was 1.83 points. The low indicator in relation to the two groups was in the patients of the control group (n=10), which amounted to 1.80 points. A factor that has a significant impact on the value of clinical indices in the age range is the presence of tartar.

Based on the above studies, in addition to treatments with COVID-19 in patients with COVID-19 complicated hypertension of stages I, II, we proposed a simultaneous therapeutic and preventive measure to reduce the level of oral hygiene, the PMA index, CPI, as well as diseases of the SOPR.

Опираясь на данные собственных исследований, нами был разработан a complex of therapeutic and preventive measures aimed at reducing the hygienic index, the PMA index and diseases of the SOPR, which includes general pomegranate oil inside and local (irrigation of the oral cavity with SPLAT Professional rinse aid and "Biocalcium" and application with pomegranate oil).

Mouthwash was performed with SPLAT Professional and "Biocalcium" rinse aid for 1 minute. 8-10 procedures were prescribed for the course. After rinsing for 2 hours, it was not recommended to eat and brush your teeth.

The expediency of including the use of pomegranate oil (inside and topically) in the composition of the therapeutic and prophylactic complex developed by us. On the 3rd day of general treatment with pomegranate oil, oral administration of 1 capsule per day and local, application for 10-15 minutes, after irrigation of the oral cavity with SPLAT Professional rinse aid and "Biocalcium", positive dynamics of clinical indicators was obtained in patients of the main group with COVID-19 complicated hypertension.



In chronic inflammatory diseases of the COPD with a combination of its AH and COVID-19, a slight increase in the concentration of proinflammatory cytokines IL-1, IL-6 was noted in the blood and oral fluid. At the same time, in patients who have undergone COVID-19, the concentration of lactoferrin and cortisol in the oral fluid has a multidirectional character.

Conclusion. It was found that in patients with the pathology of COPD combined with hypertension, there is a decrease in vascular wall thromboresistance, which is manifested by inhibition of anticoagulant and fibrinolytic activity of the endothelium, which is apparently associated with a change in vascular endothelial thromboresistance. A decrease in the anticoagulant activity of the vascular endothelium in patients of the main group is manifested by inhibition of the release of antithrombin III by the vascular wall endothelium. Inhibition of fibrinolytic activity of the vascular endothelium may be associated with a decrease in the release of tissue plasminogen activator t-PA and an increase in homocysteine levels.

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