

The Condition of the Oral Mucosa of Patients with Covid-19

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Abstract

Relevance. Most patients complain of a worsening of the oral cavity after a coronavirus infection. However, the state of the patient's dental status plays a special role in the dynamics of clinical symptoms in the oral cavity, since it is one of the criteria influencing the choice of treatment tactics by a dentist. Assessing the dental status of patients who have recovered from COVID-19 is an urgent task for clinicians. Purpose. To assess the dental status of patients undergoing COVID-19. Materials and methods. A dental examination was carried out on 48 patients aged 34 to 69 years with various diseases of the oral mucosa. The patients had a history of coronavirus infection from 2 to 6 months ago. When examining patients, clinical and laboratory methods were used. Results. Most of the patients experienced disturbances in terms of psycho-emotional status. On the mucous membrane of the lips, gums, cheeks, soft palate, pharynx and tongue, various manifestations were revealed: multiple aphthae, erosion, ulcers, plaque and plaques. The absence of oral cavity sanitation was noted - in 100% of cases. Conclusion. Correction of the dental status should be included in the treatment algorithm as a top priority to improve the efficiency of medical care for patients who have had coronavirus infection.

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Keywords: Dental status, coronavirus infection, oral hygiene.

Introduction

The COVID-19 pandemic continues to evolve around the world (1,2). However, there is very little information about the consequences of the virus in the human body. Doctors of all specialties are confronted with poorly understood symptoms that relate to the long-term effects of COVID-19 (3). In addition, most patients complain of a deterioration in the condition of the oral

cavity after suffering a coronavirus infection (4). Dentists note a significant increase in the number of patients with diseases of the oral mucosa. The scientific literature already contains descriptions of the clinical manifestations of coronavirus infection in the oral cavity (aphthous stomatitis, herpetic lesions, candidiasis, periodontal disease, angular cheilitis) (5,6,7). The course of the main disease on the oral mucosa is influenced by the patient's age, the presence of chronic diseases that

reduce immunity, stress, the severity of the previous coronavirus infection and the intensity of general therapy (8,9). However, the state of the patient's dental status plays a special role in the dynamics of clinical symptoms in the oral cavity, since it is one of the criteria influencing the choice of treatment tactics by a dentist (10). Therefore, assessing the dental status of patients who have recovered from COVID-19 is an urgent task for clinicians.

Purpose of the study:

The aim of our study was to assess the dental status of patients with coronavirus infection (COVID-19).

Materials and Methods.

On the basis of the Department of Dentistry of the Institute of the NMFO of the Volgograd State Medical University, a dental examination was carried out on 48 patients (29 women and 19 men) aged 34 to 69 years with various diseases of the oral mucosa. Patients had a history of coronavirus infection 2 to 6 months ago.

The distribution of patients by clinical manifestations is shown in Tab. 1.

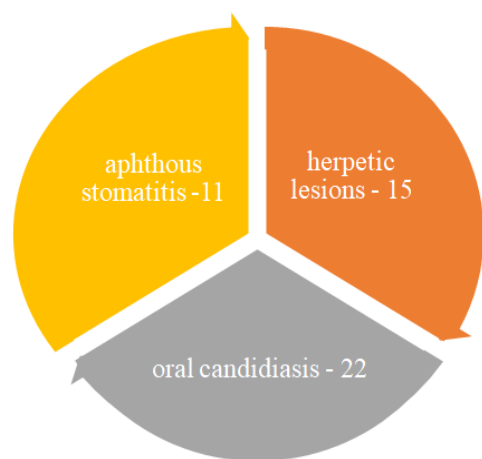


Table 1. Distribution of patients by clinical manifestations.

When examining patients, clinical and laboratory methods were used. Clinical methods: collection of patient complaints and anamnesis, assessment of the patient's dental status during the examination of teeth and oral mucosa, taking into account the criteria of sanitation. The intensity of dental caries was determined by the KPU index, the presence of dental deposits by the Green - Vermilion index (OHI-S), and the quality of orthopedic structures. When examining the oral mucosa, its color,

moisture content, signs of edema, the presence and localization of lesions were determined. The degree of inflammation in the gums was assessed using the PMA index.

For additional diagnostics, patients were sent for clinical and biochemical blood tests, as well as bacteriological and cytological examinations of the material. To identify concomitant pathology, the patients were recommended to consult an endocrinologist, gastroenterologist, immunologist, therapist.

Discussion

As a result of interviewing patients, the following complaints were identified. The main misfortune of all the patients who applied is pain in the oral cavity, which sharply increases with food intake, in 21% of patients, the pain intensifies even when talking. Patients with oral candidiasis (50%) also complained of constant burning sensation, especially in the tongue. The dryness of the oral mucosa worried all patients, the appearance of which they clearly associated with taking medications for the treatment of COVID-19. Some patients (22%) noted the appearance and increased bleeding of the gums after suffering from COVID-19. Frequent complaints were: bad breath, plaque on the tongue, ulcers on the cheeks and lips.

A separate group was made up of complaints about the condition of the teeth. Patients complained of spalling and loss of fillings, which led to the formation of sharp edges of the teeth and biting of the cheeks and tongue. Timely dental treatment was not available due to quarantine measures, which aggravated the trauma to the oral mucosa. The patients were also worried about the appearance of a "strange" plaque on their teeth, which had never been there before.

In addition, the observed patients presented complaints that can be attributed to the long-term consequences of the presence of the COVID-19 virus in the human body. A decrease in the acuity of smell and taste - "not as it was before the disease" was noted by 43% of patients. Patients complained of shortness of breath even with insignificant physical exertion, and the predominance of oral breathing, which further aggravated the dryness in the oral cavity.

Most of the patients experienced disturbances from the psycho-emotional status, in particular, stress after suffering a coronavirus infection, fear of re-infection. Frequent complaints were apathy, increased fatigue, decreased attention, and chronic fatigue. In some patients (13%), carcinophobia was expressed, especially in cases of frequent relapses of lesions of the oral mucosa.

When collecting anamnesis, it turned out that all observed patients were treated in covid hospitals with the use of combined antibiotic therapy with drugs of different groups and anticoagulants (based on hospital discharge).

According to the results of the advisory opinions of related specialists, all patients were confirmed to have concomitant somatic pathology: chronic diseases of the gastrointestinal tract were observed in 16 patients, endocrine diseases (type diabetes mellitus) - in 8 people, diseases of the cardiovascular system - in 7 patients, 17 people suffered from hypertension.

Examination of the mucous membrane of the lips, gums, cheeks, soft palate, pharynx and tongue revealed various manifestations: multiple aphthae from 5 to 20 mm in size with an erythematous corolla and yellow-white fibrinous plaque (Figure 1, 2), erosion (Figure 3), ulcers (Figure 4), plaque and plaques (Figure 5).



Figure 3. Erosive lesions of the gums and mucous membrane of the lips as a result of the transferred COVID-19



Figure 1. Multiple aphthae on the tongue of a patient after a COVID-19



Figure 4. Ulcers on the mucous membrane of the tongue as a result of the transferred COVID-19



Figure 2. Aphthous lesions of the tongue, soft palate, pharynx in a patient as a result of postponed COVID-19

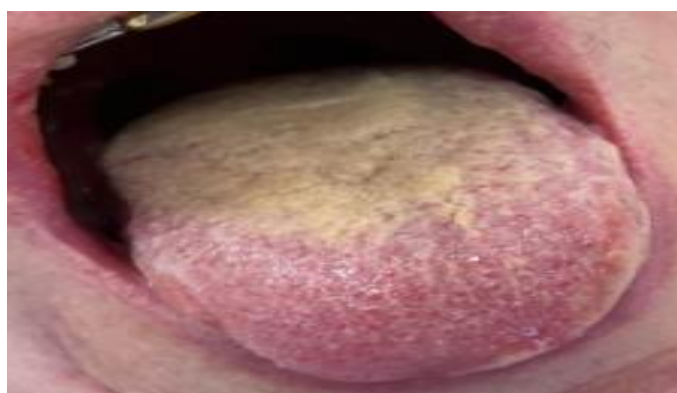


Figure 5. Candidiasis of the tongue as a result of the transferred COVID-19

In some cases, aphthae, erosion merged, forming extensive lesions of the oral mucosa (figure 6)



Figure 6. Extensive erosive and ulcerative lesions of the oral mucosa.

The absence of oral cavity sanitation was noted - in 100% of cases. The intensity of caries - KPU - 16, 7 ± 0 , 8. Poor oral hygiene was observed in all patients (OHI-S - 3.96 ± 0.15). The PMA index was 34, 66 ± 2 , 23. The presence of orthopedic structures made of dissimilar metals was detected in 8 subjects.

Submental, submandibular and parotid lymph nodes with a diameter of 10 - 12 mm, mobile, not adhered to the surrounding tissues, painful on palpation. Based on the data of bacterial culture of the plaque content from the tongue (an increase of more than 10^3 - 10^4 CFU / 1 g), the diagnosis of candidiasis was confirmed in 22 patients.

Conclusion

As a result of the study, it turned out that the dental status of patients who underwent COVID-19 does not meet the criteria for oral cavity sanitation. In such patients, extensive erythematous, erosive, ulcerative lesions with a persistent course are more often detected. Correction of the dental status should be included in the treatment algorithm as a top priority to improve the efficiency of medical care for patients who have had coronavirus infection. Professional oral hygiene is a mandatory stage in the rehabilitation of patients who have undergone COVID-19

Author contributions

MYA: conceived the ideas.

D GLM: led the writing.

SV and DDY: collected and analyzed the data.

IY: design of the manuscript; work with graphic material; editing and processing of the manuscript.

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Conflicts of Interest

The authors report no conflicts of interest pertaining to any of the products or companies discussed in this article.

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