~30% из средств, выделяемых фондом ОМС. Эти затраты обосновываются увеличением числа обращений пациентов и оказываемых им услуг по исследуемому профилю. Следовательно, при формировании бюджета ОМС необходимо планировать рост финансирования затрат на оказание стоматологической помощи хирургического профиля

#### Список литературы:

1. Каюмова, Н., & Эшмаматов, И. (2022). Инновационные технологии обучения в медицине. *in Library*, 22(1), 1–2. извлечено от <u>https://inlibrary.uz/index.php/archive/article/view/13994</u>

2. Мукимов, O., & Исанова, Д. (2020).ОКАЗАНИЕ СТОМАТОЛОГИЧЕСКОЙ ПОМОШИ В ПЕРИОД ΡΕΦΟΡΜ ЗДРАВООХРАНЕНИЯ. Stomatologiya, 1(2(79), 24–28. извлечено OT https://inlibrary.uz/index.php/stomatologiya/article/view/1128

# CHANGES IN SALIVA IN PERSONS WITH SEVERE COVID-19 Jabbarova F.U.

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**RELEVANCE:** The available data have not yet identified an effective and safe pharmacological therapy against COVID-19, and the available potential antiviral drugs lead to adverse reactions [4,5,7,9,11]. Therefore, acute COVID-19 infection and associated therapeutic interventions can contribute to adverse oral health outcomes. Oral signs and symptoms associated with COVID-19 are known to include taste disturbances, nonspecific mouth ulcers, desquamative gingivitis, petechiae, and coinfections such as candidiasis [7,8,9,11,12].

However, it is still not clear whether these manifestations can be a true clinical picture resulting from direct infection with SARS-CoV-2, or systemic consequences, given the possibility of coinfections, weakening of local immune reactivity and adverse reactions to therapy [2,5,7,9,11].

Since the prevalence of clinical manifestations is still not fully understood, the spectrum of manifestations of COVID-19 in the oral cavity is considered a subject of wide and current interest, therefore, a live systematic review approach is needed that will allow continuous monitoring of recently published studies through periodic searches to include new relevant information, especially on a topic that is constantly being updated in the context of COVID-19.

In recent years, much attention has been paid not to the study of cellular and humoral factors of systemic immunity, but most of all the emphasis is on the factors of local immunity, especially depending on the clinical features of the course of the disease, which gives a broader and more correct understanding of changes in local immunity, especially against the background of the course of infectious pathology [2,4,7,9,11]. This paper will present the main immunological parameters of local immunity and blood, which are important in the immunopathogenesis and course of respiratory infectious pathology associated with the course of COVID-19. The factors of innate immunity will be investigated. These factors include such values as humoral factors: cytokines, interferons, immunoglobulins and circulating immune complexes of various sizes.

**The purpose of the study.** Study of the features of local mucosal immunity of the oral cavity and systemic immunity in persons with severe COVID-19.

#### Material and Research Methods.

In the city of Tashkent, Zangiotinsky district, 70 patients with coronavirus infection (moderate to severe, severe) and without disease were examined

## **Results and its Discussion.**

Results shows the immune factors studied in saliva. Thus, it was revealed that the content of secretory IgA in saliva in the control was  $12.45 \pm 0.41$  g / l, while in persons with moderate course of Covid-19 -  $5.42 \pm 1.5$  g / l, and in severe patients -  $1.22 \pm 0.11$  g / l, which was significantly reduced in both study groups of patients with COVID-19. It can be seen that in the group of moderately severe patients the level of secretory immunoglobulin A was suppressed by 2.3 times compared with the control values, and in the group of severe patients the level of secretory immunoglobulin was reduced 10 times compared to the control values.

So, it can be seen from the table that there are also differences between the groups of patients; it can be seen that the group of persons with severe COVID-19 has the lowest content of secretory immunoglobulin A in saliva. Thus, the analysis of the sIgA content revealed the presence of reliable suppression in the saliva of persons with moderate and severe COVID-19. Moreover, a pronounced suppression of sIgA was noted in the group of persons with a severe course of COVID-19 (p> 0.05). Further, the concentration of IFN-alpha, which is a potent antiviral cytokine protein, was studied. As can be seen from the table, the content of IFN-alpha in saliva in the control was  $24.27 \pm 1.50$  ng / ml, while in persons with moderate COVID-19 it was  $14.7 \pm 2.13$  ng / ml, and in severe patients -  $3.36 \pm 0.82$  ng / ml, which was also significantly reduced in both study groups of patients with COVID-19.

Thus, we have studied the main two pro-inflammatory cytokines TNF-a and IL- 1 beta, which are pro-inflammatory in nature. The analysis showed that the comparative analysis revealed an increase in proinflammatory cytokines in comparison with the control values. It is known that the cytokine TNF-a is of cellular origin, that is, it is produced mainly by cells of the immune system and is a product of monocytes / macrophages, in special cases - activated T-lymphocytes. It was found that the inducers of TNF-a formation are microorganisms and their products, the process of phagocytosis itself. Its level increases with virus infection. It is obvious that TNF-a is involved in the implementation of the cytotoxic action of natural killer cells and LAK cells, which play an important role in anti-infectious and antitumor immunity. These factors explain the T-cell immunodeficiency that is observed in coronavirus infection. Consequently, TNF-alpha is a cytokine, which, in terms of properties and spectrum of biological action, is a product of macrophages. In coronavirus infection, especially in severe cases, it was revealed that there is lymphopenia with suppression of the cellular link of immunity, humoral

immunity factors and an increase in TNF-alpha, which in turn supports the inflammatory process.

**Conclusions:** Antiviral local immunity in salivary fluid in patients with Covid-19 with moderate and severe course is characterized by decreased IFN-alpha values by 1.7 times and 7.2 times, respectively. The lowest content of IFN-alpha in saliva is typical for persons with severe COVID-19, also pro-inflammatory potential is presented by studying the content of IL-1 beta and TNF-alpha in salivary fluid in persons with moderate and severe COVID-19. Thus, in the group of moderately severe individuals, the concentration of IL-1 beta was increased by 2 times, and in the group of severe patients - by 2.7 times, which indicates the current inflammatory process. The concentration of TNF-a in saliva was increased in the group of persons with moderate and severe COVID-19 by 2.8 times and 4.9 times, respectively.

### REFERENCES

1. Taylakova D.I, KamilovKh.P, Kasymov M.M. The prevalence of systemic hypoplasia in children depending on the adverse environmental conditions and their prevention / INTERNATIONAL JOURNAL FOR SOCIAL STUDIES. - 2019. - Volume 5 (4) - P. 25-33.

2. Kazakova N.N. Dental status in patients with inflammatory disease sof the joints// «Актуальные вызовы современной науки» XIVIII Международная научная конференция. Переяслав. - 2020. - С .57-58.

3. Khabibova N.N. Characteristic features of free-radical processes and antioxidant protection in the oral cavity during chronic recurrent aphthous stomatitis// European Science Review. - 2018. - P. 191-193.

4. Kazakova N.N. The Chronic Catarrhal Gingivitis Diagnosis Specifics in Patients with Rheumatism// JournalNX. -2020. - №11(6). - P. 396-400

5. Hamroeva D.Sh. Comparative Analysis Of The Effectiveness Of The Treatment Of Parodontitis In Patients With Obesity// International Journal of Progressive Sciences and Technologies International Journal of Progressive Sciences and Technologies (IJPSAT) ISSN: 2509-0119. -Vol. 24 No. 1 December 2020. - P. 469-472.

6. Казакова Н.Н. Использование бактериофагов в профилактике воспалительных заболеваний полости рта при ревматизме// «Актуальные вызовы современной науки» XIVIII Международная научная конференция. Переяслав. -

2020. - C. 90-92.

7. Казакова Н.Н., Собиров А.А. Изучение влияния зубных паст на микробиоту ротовой полости// «Актуальные вопросы фармакологии: от разработки лекарств до их рационального применения» Бухара. - 2020. - С. 3638.

8. Суванов К., Нуралиев N., & Нуралиева Н. (2020). Indicators of bacterial translocation intensity in experimental acute obstacles of thin and thick intestine. *in Library*, 20(1), 894–899. извлечено от <u>https://inlibrary.uz/index.php/archive/article/view/13978</u>

9. Маннанов Z., Пулатова B., Назаров Z., Хасанов S., & Хомидов M. (2020). An integrated approach to dental implantation in patients who underwent Cavid-19. *in Library*, 20(1), 687–697. извлечено от https://inlibrary.uz/index.php/archive/article/view/14283