INFLUENCE OF PROBIOTIC THERAPY ON CYTOLOGICAL INDICATORS IN THE MANAGEMENT OF INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION

Nabiev R.Kh.

doctoral candidate of the Department of Maxillofacial Surgery of the Tashkent State Medical University. https://orcid.org/0009-0008-6493-6883

Introduction. Inflammatory diseases of the maxillofacial region are among the most common and severe complications in dentistry. They are characterized by the rapid spread of infection, involvement of soft tissues, and a high risk of generalized inflammation. Odontogenic phlegmons and abscesses are particularly dangerous due to the anatomical features of this region, which necessitates timely diagnosis and the selection of an optimal treatment strategy [1-8].

Traditional treatment regimens include incision and drainage of the lesion, systemic antibiotic therapy, and local antiseptic wound care. However, these methods do not always ensure rapid sanitization of the infectious focus and complete tissue regeneration, which can lead to complications and a prolonged disease course [1-8].

In recent years, researchers' attention has been drawn to probiotics as an adjunctive therapy for inflammatory diseases. Their local application helps normalize the microbiota, suppress pathogenic flora, stimulate local immunity, and activate regenerative processes. The inclusion of probiotics in the comprehensive treatment of purulent-inflammatory diseases of the maxillofacial region is considered a promising approach that can enhance therapeutic efficacy and reduce healing time [9-11].

The cytological method of investigation is particularly significant in evaluating treatment effectiveness. It allows for an objective assessment of the dynamics of the inflammatory process, the nature of cellular infiltration, and the degree of reparative changes at the site of the lesion. A comparative cytological analysis of the traditional

approach versus the use of probiotics makes it possible to identify the advantages of new therapeutic strategies and develop recommendations for clinical practice.

The diagnosis and treatment of odontogenic phlegmons are a current problem due to the prolonged tissue healing process. One of the urgent tasks in maxillofacial surgery is to find and improve treatment methods, incorporating new approaches to resolve these defects.

An infectious-inflammatory process in the perimaxillary tissues, predominantly affecting the cellulofascial spaces, can arise independently; however, it is more often a consequence of the spread of infection from periodontal tissues and is therefore considered odontogenic.

Odontogenic phlegmons are serious infectious complications resulting from the spread of infection from the teeth and surrounding tissues. These conditions can lead to severe consequences, including sepsis and the need for surgical intervention. The problem lies in the insufficient effectiveness of existing treatment methods, which underscores the need to improve therapeutic strategies.

Analyzing modern approaches to the treatment of odontogenic phlegmons and evaluating their effectiveness based on the cytological characteristics of these diseases is a pressing task in modern medicine.

The relevance of this topic is driven by the rising incidence of odontogenic phlegmons both in Uzbekistan and worldwide, which necessitates the development of more effective treatment and diagnostic methods. In the context of modern healthcare, where infectious diseases are becoming increasingly prevalent, it is important to find new treatment approaches.

Thus, the relevance of this study is determined by the need to improve methods of local treatment for inflammatory diseases of the maxillofacial region. A comparative cytological assessment helps to substantiate the rationale for using

probiotics in comprehensive therapy and to determine their place in modern surgical dentistry.

Objective: The objective of this study is to analyze modern methods for treating odontogenic phlegmons and to investigate their cytological characteristics. This will enable the development of recommendations for optimizing treatment strategies and improving clinical outcomes.

Materials and Methods. For cytological analysis, 41 patients with phlegmon of various localizations in the maxillofacial region were selected. The 20 patients in the control group were treated traditionally: after incision of the purulent focus and antibiotic therapy, the wound was locally irrigated with a 1% chlorophyllipt solution and 3% hydrogen peroxide. In Group II, which included 21 patients with inflammatory diseases of the maxillofacial region and neck, local treatment involved the use of a probiotic solution, "Probiomix," at a concentration of 10 g/l in physiological saline, in addition to traditional treatment. The purulent wound was treated daily until purulent discharge ceased. In both groups, the analysis was conducted at 1-2 days, 3-4 days, and 6-7 days.

Results. Cytological examination of wound smears revealed acute diffuse purulent inflammatory infiltration of the wound surface on days 1-2. Changes in the dynamics of local signs were observed during topical treatment, which included daily rinsing of the wound with the probiotic solution "Probiomix" until purulent discharge ceased.

After repeated daily rinsing of the wound with the "Probiomics" probiotic solution, a significant decrease in purulent exudate, necrotic tissue sloughing, and erythrocyte accumulation was observed by the third day. In contrast, patients in the control group undergoing traditional therapy exhibited a similar cytological picture that persisted until days 5-6.

Conclusion. Thus, local treatment using the proposed method with the "Probiomics" probiotic solution alongside traditional methods is highly effective and accessible for surgical practice. This is a more advanced treatment method that helps to clear wounds of the purulent-necrotic process and initiate regenerative processes in a short period of time. The results of the cytological study, comparing traditional treatment with the use of the probiotic, demonstrate the effectiveness of the proposed methodology and the potential for its wide application not only in dental but also in general surgical practice.

References

1. Диагностика и лечение флегмон челюстно-лицевой области, пути ее оптимизации / Т.Э. Доржиев, В.Е. Хитрихеев, В.П. Саганов [и др.] // Вестник Бурятского государственного университета. – 2015. – № 12. – С. 174–178.

2. Исмаилов, Г.М. Результаты лечения инфекции в области хирургического вмешательства методом фотодинамической терапии /Г.М. Исмаилов, Е.К. Словоходов, В.И. Ярема [и др.] // Эндоскопическая хирургия. – 2016. – Т. 22. – № 3. – С. 28–36.
3. Манойло, М.Н. Структурные особенности гнойно-воспалительных заболеваний челюстно-лицевой области у жителей Ханты-Мансийского автономного округа / М.Н. Манойло, В.В. Дарвин // Практическая медицина. – 2018. – Т. 16, № 8. – С. 117–120.
4. Абдуллаев Ш. Ю., Шомуродов К. Э. Использование низкочастотного ультразвука и актовегина в лечении одонтогенной флегмоны челюстно-лицевой области //Врач-аспирант. – 2011. – Т. 46. – №. 3.3. – С. 454-459
5. Шомуродов К. Э. Особенности баланса цитокинов в десневой жидкости при одонтогенной флегмоне челюстно-лицевой области //Врач-аспирант. – 2010.

– Т. 42. – №. 5.1. – С. 187-192.

6. Шаева Р., Шомуродов К. Пути оптимизации комплексного лечения гнойно воспалительных заболеваний челюстно-лицевой области (обзор литературы) //Журнал стоматологии и краниофациальных исследований. – 2021. – Т. 2. – №. 2. – С. 13-17.
7. Шомуродов К. Э., Мирхусанова Р. С., Шаева Р. Г. Ошибки в диагностике острых воспалительных заболеваний периапикальных тканей в догоспитальном периоде //Стоматология-наука и практика, перспективы развития. – 2021. – С. 247-249.
8. Воробьев А.А. Изучение чувствительности микробов к лекарственным препаратам ЖМЭИ, 2005, №3, с. 25-29.
9. Шомуродов К.Э., Набиев Р.Х. Изучение чувствительности микробов полости рта к лекарственным препаратам в условиях in vitro //Журнал Медицина и инновации. – 2025. – №. 2(18). – С. 211-218.
10. Набиев Р.Х., Мусаев Ш.Ш. Влияние озона на показатели эндогенной интоксикации в динамике комплексного лечения больных с одонтогенными флегмонами. Интегративная стоматология и челюстно-лицевая хирургия. 2024;3(3):181–186. https://doi.org/10.57231/j.idmfs.2024.3.3.024
11. Набиев Р.Х., Шомуродов К.Э., Буриев Н.З. Комплексный подход к лечению гнойно-воспалительных заболеваний челюстно-лицевой области в сочетании с метаболическим синдромом. Интегративная стоматология и челюстно-лицевая хирургия. 2023;2(3):125–133. https://doi.org/10.57231/j.idmfs.2023.2.3.017
12. Shomurodov K. E. Peculiarities of Clinic and Diagnostics of Phlegmon of the Oral Floor //Central Asian Journal of Medical and Natural Science. – 2023. – Т. 4. – №. 3. – С. 388-391.

13. Shomurodov K. E., Nabiyev R. H., Musaev S. S. СРАВНИТЕЛЬНАЯ ЭФФЕКТИВНОСТЬ МЕСТНОГО ПРИМЕНЕНИЯ РАСТВОРА ПРОБИОТИКА 4ПРОБИОМИКС5 И ТРАДИЦИОННОЙ АНТИСЕПТИЧЕСКОЙ ТЕРАПИИ В ЛЕЧЕНИИ ГНОЙНО: ВОСПАЛИТЕЛЬНЫХ ЗАБОЛЕВАНИЙ ЧЕЛЮСТНО: ЛИЦЕВОЙ ОБЛАСТИ //Eurasian Journal of Otorhinolaryngology-Head and Neck Surgery. – 2025. – Т. 4. – С. 58-64.
14. Шомуродов К.Э., Набиев Р.Х. ИЗУЧЕНИЕ ЧУВСТВИТЕЛЬНОСТИ МИКРОБОВ ПОЛОСТИ РТА К ЛЕКАРСТВЕННЫМ ПРЕПАРАТАМ В УСЛОВИЯХ IN VITRO! // Медицина и инновация. 2(18) июнь 2025. С.177-179
15. Шомуродов К.Э., Рейимназарова Г.Ж., Набиев Р.Х. Сравнтиельная цитологическая характеристика эффективности местного лечения одонтогенных флегмон челюстно - лицевой области в сравнении с традиционным лечением и применением Пробиотика. // Журнал Стоматологии и каниофацалных исследование. том 6, номер 3. С.75-78
16. Shomurodov K.E., Nabiyev R.H., Musaev Sh.Sh. APPLICATION OF PROBIOTIC SOLUTION IN THE TREATMENT OF PURULENT INFLAMMATORY DISEASES OF THE MAXILLOFACIAL REGION // International bulletin of medical sciences and clinical research. Volume 5, Issue 12, December. P.180-186
17. Шомуродов К.Э., Набиев Р.Х.Современние аспекти этиологи и патогенеза флегмон дна полости рта // Перспективиы и инновации в челюстно лицевой хирургии. Решение молодых ученых. 10 февраль 2023 г., с. 58-61