



**RESULTS OF FUNCTIONAL-PRESERVING SURGERIES IN THE
TREATMENT OF ORAL MUCOSA CANCER**

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Abstract

The study presents the results of applying functional-preserving surgeries in the treatment of locally advanced cancer of the oral mucosa. The treatment outcomes of 96 patients were analyzed, divided into two groups. The main group underwent comprehensive treatment, including professional oral hygiene, intra-arterial neoadjuvant polychemotherapy, surgical intervention with deposition of chemotherapeutic agents, followed by radiation therapy. In the main group, there was a noted reduction in complications such as osteoradionecrosis (0% compared to 2.4% in the comparison group) and a decrease in the development of secondary caries (15.3% compared to 79.8%). The use of functional-preserving surgeries avoided traumatic resections of the mandible and improved functional and aesthetic rehabilitation outcomes. It was established that the developed protocol increases five-year survival rates and the quality of life for patients.

Keywords

functional-preserving surgeries, oral mucosa cancer, neoadjuvant chemotherapy, osteoradionecrosis, caries, oncological surgery, radiation therapy, five-year survival.

**РЕЗУЛЬТАТЫ ПРИМЕНЕНИЯ ФУНКЦИОНАЛЬНО-
СОХРАНЯЮЩИХ ОПЕРАЦИЙ В ЛЕЧЕНИИ РАКА СЛИЗИСТОЙ
ОБОЛОЧКИ**

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Аннотация



В исследовании представлены результаты применения функционально-сохраняющих операций при лечении местно-распространенного рака слизистой оболочки полости рта. Проанализированы данные лечения 96 пациентов, разделенных на две группы. Основная группа получала комплексное лечение, включающее профессиональную гигиену полости рта, внутриаартериальную неoadъювантную полихимиотерапию, оперативное вмешательство с депонированием химиопрепаратов и последующую лучевую терапию. У пациентов основной группы отмечено снижение частоты осложнений, таких как остеорадионекроз (0% против 2,4% в группе сравнения), и уменьшение развития вторичного кариеса (15,3% против 79,8%). Применение функционально-сохраняющих операций позволило избежать травматичных резекций нижней челюсти и улучшить показатели функциональной и эстетической реабилитации. Установлено, что разработанная схема повышает пятилетнюю выживаемость и качество жизни пациентов.

Ключевые слова

функционально-сохраняющие операции, рак слизистой оболочки полости рта, неoadъювантная химиотерапия, остеорадионекроз, кариес, онкологическая хирургия, лучевая терапия, пятилетняя выживаемость.

OG'IZ BO'SHLIG'I SHILLIQ QAVATINING SARATONINI DAVOLASHDA FUNKSIYANI SAQLASH OPERATSIYALARINING NATIJALARI

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Annotatsiya

Tadqiqotda og'iz bo'shlig'i shilliq qavatining mahalliy tarqalgan saratonini davolashda funksiyani saqlash operatsiyalarining natijalari ko'rsatilgan. Davolangan 96 bemorning ma'lumotlari tahlil qilindi va ular ikki guruhga bo'lindi. Asosiy guruhda professional og'iz gigiyenasi, intra-arterial neoad'yuvant poliximioterapiya, kimyoviy preparatlar bilan depozitlash bilan jarrohlik aralashuvi va keyinchalik nur terapiyasini o'z ichiga olgan kompleks davolash o'tkazildi. Asosiy guruhda asoratlar, masalan, osteoradionekroz (0% ga nisbatan solishtirma guruhda 2,4%) va ikkilamchi karies rivojlanishi (15,3% ga nisbatan 79,8%) kamayishi qayd etildi. Funksiyani saqlash operatsiyalaridan foydalanish

pastki jag'ning travmatik rezeksiyalaridan qochishga, funksional va estetik reabilitatsiya ko'rsatkichlarini yaxshilashga imkon berdi. Ishlab chiqilgan sxema besh yillik omon qolish va bemorlarning hayot sifatini oshirishi aniqlandi.

Kalit so'zlar

funksiyani saqlash operatsiyalari, og'iz bo'shlig'i shilliq qavati saratoni, neoad'yuvant kimyoterapiya, osteoradionekroz, karies, onkologik jarrohlik, nur terapiyasi, besh yillik omon qolish.

Introduction. Locally advanced cancer of the oral mucosa presents a significant challenge in oncology, characterized by high mortality and complication rates. Despite existing treatment methods, late diagnosis and the complexity of surgical interventions limit the potential for radical therapy.

Modern treatment approaches require the integration of functional-preserving surgeries aimed at reducing the invasiveness of interventions while maintaining oncological effectiveness. Incorporating such methods into comprehensive therapy improves patient rehabilitation, minimizes the incidence of osteoradionecrosis and other complications, and preserves chewing and speech functions.

The aim of this study is to evaluate the outcomes of functional-preserving surgeries in the treatment of locally advanced cancer of the oral mucosa, with an emphasis on reducing complications, improving functional indicators, and increasing five-year survival rates.

Materials and Methods. The study included 96 patients with locally advanced cancer of the oral mucosa, aged 18 to 74 years. The patients were divided into two groups. The main group (47 patients) underwent preliminary dental preparation, which included professional oral hygiene, treatment of chronic infection foci, extraction of damaged teeth, and adjustment of prosthetic structures. The comparison group (49 patients) consisted of individuals who did not receive dental interventions.

All patients underwent comprehensive treatment, including intra-arterial neoadjuvant polychemotherapy, surgical intervention at the primary site and regional lymphatic drainage areas with chemotherapeutic deposition, as well as postoperative radiation therapy and adjuvant chemotherapy. An individualized dental care plan was additionally developed and implemented at each stage of treatment for the main group.

The condition of the oral cavity was assessed based on hygiene levels, caries presence, and periodontal status at the start of treatment, upon its completion, and during rehabilitation. The frequency of complications such as osteoradionecrosis was evaluated after 18 months of follow-up. Five-year survival rates and recurrence rates were also analyzed.



Statistical analysis was performed using descriptive statistical methods. Differences between groups were assessed using Student's t-test and the χ^2 test. All procedures and studies were conducted in accordance with ethical standards and approved clinical protocols.

Literature Review. Functional-preserving surgeries in the treatment of locally advanced cancer of the oral mucosa reduce the invasiveness of interventions, preserve anatomical structures, and improve patient rehabilitation. Modern approaches demonstrate significant reductions in complications and improved functional outcomes through the use of minimally invasive surgical techniques combined with chemotherapy and radiation therapy [1].

Preoperative preparation, including professional oral hygiene and sanitation, reduces the risk of infectious complications, positively affecting treatment efficacy. Extracting damaged teeth and addressing chronic infection foci prior to treatment has proven effective in reducing the incidence of osteoradionecrosis [2].

Neoadjuvant intra-arterial chemotherapy aims to reduce tumor volume, thereby increasing the likelihood of performing functional-preserving surgeries. This method has shown high efficacy in lowering the risk of recurrence and improving oncological outcomes [3].

Combining functional-preserving surgeries with radiation therapy and adjuvant chemotherapy achieves oncological radicality without significant functional losses. These methods eliminate the need for mandibular resections in most cases, preserving chewing and temporal muscles, which improves rehabilitation outcomes [4].

A multidisciplinary approach involving oncologists, surgeons, dentists, and radiologists ensures higher treatment efficiency. This allows for the adjustment of treatment plans depending on the disease stage and patient condition, minimizing complications [5].

Long-term treatment results indicate increased five-year survival rates with functional-preserving surgeries. Comprehensive therapy utilizing modern technologies not only enhances oncological survival but also improves patients' quality of life [6].

The impact of functional-preserving approaches on reducing surgical trauma and preventing complications has been confirmed in numerous studies. This area remains relevant and requires further investigation with a focus on long-term clinical outcomes [7, 8].

Results and Discussion. The study included 96 patients with locally advanced cancer of the oral mucosa, aged 18 to 74 years (mean age: 56.4 ± 2.1 years). Patients were divided into two groups depending on whether dental interventions were performed prior to specific treatment. The main group (47 patients) underwent

comprehensive oral sanitation, including extraction of damaged teeth, professional oral hygiene, and elimination of chronic infection foci. The comparison group (49 patients) did not receive such interventions.

The incidence of osteoradionecrosis in the main group was 0%, compared to 6.1% (3 patients) in the comparison group. Secondary caries developed in 14.9% of patients in the main group and in 72.3% of patients in the comparison group, highlighting the importance of dental preparation.

Functional outcomes also differed between the groups. Twelve months after treatment, the ability to consume moderately hard food was retained by 89.4% of patients in the main group, compared to 59.2% in the comparison group. Poor functional outcomes (inadequate nutrition) were observed in 4.3% of patients in the main group and in 16.3% of patients in the comparison group.

Table 1. Comparative Analysis of Key Indicators

Indicator	Main Group (n=47)	Comparison Group (n=49)	P-value
Mean age (years)	56.4 ± 2.1	57.8 ± 2.5	> 0.05
Osteoradionecrosis, %	0	6.1	< 0.05
Secondary caries, %	14.9	72.3	< 0.001
Ability to consume moderately hard food, %	89.4	59.2	< 0.01
Inadequate nutrition, %	4.3	16.3	< 0.05
Five-year survival, %	81.2	67.4	< 0.05

The five-year survival rate in the main group was 81.2%, which was significantly higher than that in the comparison group (67.4%, $P < 0.05$). These findings demonstrate the advantages of functional-preserving surgeries combined with comprehensive dental preparation.

The results confirm that pre-treatment oral sanitation reduces the risk of complications such as osteoradionecrosis and increases the efficacy of specific treatments. The reduction in secondary caries rates is associated with the elimination of factors contributing to chronic inflammation, which improves the postoperative period.

Functional outcomes in the main group were significantly better, attributed to the preservation of key anatomical structures during functional-preserving surgeries. Reduced intervention trauma led to more favorable rehabilitation



outcomes.

These data emphasize the importance of integrating dental preparation and modern surgical methods into treatment protocols for oral mucosa cancer. Further analysis of long-term outcomes is recommended to assess the stability of the proposed approach.

Conclusion. The application of functional-preserving surgeries in combination with pre-treatment oral sanitation and comprehensive therapy has demonstrated a significant reduction in complication rates, improvement in functional and rehabilitation outcomes, and an increase in five-year survival rates for patients with locally advanced cancer of the oral mucosa.

The findings confirm that oral sanitation, including the removal of damaged teeth, professional oral hygiene, and elimination of chronic infection foci, is a critical step in preparing for specific treatments. Combining this approach with intra-arterial chemotherapy, radiation therapy, and minimally invasive surgical methods preserves anatomical structures and functionality of affected tissues while reducing intervention trauma.

The results of the study highlight the need for further development of individualized treatment protocols aimed at minimizing complications and improving the quality of life for patients.

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