

Section 5. Medicine

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SURGICAL REHABILITATION OF MALIGNANT TUMORS OF THE ORAL MUCOSA USING THORACO- PECTORAL AND DELTOPECTORAL FLAPS

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Abstract

Malignant tumors of the oral mucosa are the sixth most common among all oncological diseases and the third most common among malignant head and neck tumors. This disease often affects young patients. After treatment, vital functions such as opening the mouth, swallowing, chewing, eating, and speaking either decrease, or are limited, or disappear altogether, which causes deep psychological trauma to the person. A large part of people with this pathology are isolated from both society and social activities. The defects formed after surgical treatment are often incompatible with life without plastic and reconstructive operations.

The existing difficulties make it necessary to assess the expected results of the chosen treatment method before using it, to calculate the degree of restoration of vital functions and the risks accompanying the conduct of reconstructive and reconstructive operations.

Keywords: *Malignant tumors of the oral mucosa, reconstructive and reconstructive operations. Vital functions. Combined and complex treatment. Defects formed after surgery, skin autograft, deltopectoral flap, and thoracopectoral flap*

Introduction

Malignant tumors of the oral mucosa include tumors of anatomically different localization and neighboring organs, such as the buccal mucosa, tongue, floor of the mouth, mucosa covering the alveolar ridge of the upper jaw, hard and soft palate, uvula, tonsils and palatine arches, mucosa covering the alveolar ridge of the lower jaw, Salivary glands.

Malignant tumors of the oral mucosa account for 2–4 percent of all malignant tumors and 20 percent of malignant tumors of the head and neck. It is equally common in both men and women, with a slight predominance in men over 60 years of age, although it is not uncommon in patients over 40 years of age. Despite the fact that tumors of this localization are considered tumors of visual

localization, (Figure 1, Figure 2) the rate of active detection of patients in the early stages does not exceed 10 percent, and 71 percent of tumors are diagnosed in the third or

Figure 1.



Treatment of malignant tumors of the oral mucosa is radiation therapy, chemotherapy and surgical treatment in various sequences or combinations.

The effects of combined or complex treatments, single or multiple antitumor effects, subsequent tumor progression, repair of defects formed after surgery, the use of grafts, and improvement in the patient's quality of life after plastic and reconstructive surgery remain the subject of ongoing research.

The issue of metastasis of malignant tumors of the oral mucosa is characterized by distinct features, both in terms of prevalence and frequency, as well as localization. Figure 3 presents the types of regional lymphogenous metastasis of malignant tumors of the oral mucosa.

Figure 3.



Distant metastasis is also characterized by no less peculiarities. Presumably, there should be a computed tomography of the lungs, where there is a unilateral metastasis and where there is a bilateral metastasis.

fourth stage of the disease. It is important that only 3–4 percent of patients are detected as a result of preventive examinations.

Figure 2.



The anatomy and physiology of the oral mucosa performs such indispensable functions as chewing, breathing, swallowing, speech and aesthetic functions. Any pathology in the oral cavity creates unfavorable conditions for adaptation in terms of labor, social and medical conditions. And the defects formed after treatment are incompatible with life without plastic reconstructive operations.

The aim of the study is to evaluate the effectiveness of the use of deltopectoral and thoraco-pectoral autografts for the surgical treatment of malignant tumors of the oral mucosa, in particular, for the purpose of one-time plastic surgery of defects formed after resection of half of the tongue, resection of the floor of the mouth, and resection of the buccal mucosa.

The task of the study is to determine the type of surgical treatment of malignant tumors of the oral mucosa at a certain stage of combined or complex treatment. Also, to determine the effectiveness of the method based on the viability of the flaps selected for the restoration of defects formed after the operation, which is carried out in the post-operative period, on the second, fourth and seventh days after the operation, using Doppler to assess the patency of the flap's feeding blood vessels. The flap surface is assessed by visual inspection every day until the completion of revascularization.

At the Tbilisi Oncology Scientific Center, 511 patients with a diagnosis of malignant tumors of the oral mucosa were treated from 2021 to 2025.

Among them, 115 (22.5%) were women and 396 (77.49%) were men.

The age ranged from 32 to 80 years, of which 36 (7.04%) patients were under 40 years of age, 207 (40.51%) patients were between 40 and 60 years of age, and 278 (54.40%) patients were over 60 years of age.

According to localization, squamous cell carcinoma of the buccal mucosa was detected in 113 (22.11%) cases, squamous cell cancer of the tongue was diagnosed in 337 (65.94%) patients, and malignant tumor of the floor of the mouth was verified in 61 (11.93%) patients. 342 (67%) of the patients mentioned chronic mechanical irritants, improperly adjusted dentures, damaged, non-removable orthopedic structures, or fractured roots as the etiological factors. The presence of.

The first stage of malignant tumor of the oral mucosa T1 N0 M0 was diagnosed in 104 (20.34%) cases.

The second stage T2N0M0 – in 121 (23.67%) cases.

The third stage T1-2-3N1M0 was detected in 225 (44.03%) patients.

The fourth stage T1-2-3-4N1-2-3M1 was detected in 61 (11.93%) patients. Accordingly, regional lymphogenous metastasis was detected in 286 (55.96%) patients, and distant metastasis was diagnosed in 61 (11.93%) cases.

All patients underwent sequential clinical-laboratory examination, cytological and morphological examination of the neo-operative material. Neck lymph nodes, Ultrasound examination of the submandibular and submental lymph nodes to detect regional lymphogenous metastases. Computed tomography of the chest, abdomen, and brain to detect distant metastases.

Of the examined patients 27(5,28%) had a history of physical treatment of tumor for-

mation. 156(30,72%) of the patients had undergone chemoradiation treatment three years before showing signs of tumor progression. Surgical treatment Wide excision of the tumor single-stage plastic surgery, using local tissues, three to four years before the combined treatment was performed in 71(13,89) patients-fig4–5Figure N5 shows the patient with a tumor on the buccal mucosa resulting from mechanical trauma to the upper and lower impacted wisdom teeth over a three year period. A wide excision of the tumor was performed with a single local tissues after surgical extraction of impacted wisdom teeth.

Figure 4.



Figure 5.



Of the 121 patients with stage II, 72 (59.50%) patients underwent combined treatment – surgical treatment in the first stage of treatment and chemoradiation treatment in the second stage. Surgical treatment includes both primary tumor excision, namely resection of half of the tongue, resection of the floor of the mouth, fragmentary resection of the lower jaw with one-time reconstruction of the defect, as well as prophylactic lymphadenectomy with Vanek's operation or fascial-fusiform dissection of the lymph nodes of the neck in full volume.

Figure 6.



Figure 7.



Fig. N6, Fig. N7, Fig. N8, Fig. N9, Fig. N10 picture shows a patient with a tumor of the floor of the mouth that spread to the middle and anterior third of the tongue and infiltrated the anterior frontal region of the mandible. A resection of the floor of the mouth, a resection of half of the tongue, a fragmentary resection of the mandible were performed, and a thoracodorsal flap was used for the purpose of a single-stage plastic surgery of the post-operative defect, through which the integrity of the floor of the mouth was restored. Fig-

ure #10 shows the excised specimen, and #9 shows the floor of the mouth restored with a thoracodorsal flap.

The Resection of the buccal mucosa, resection of the right upper jaw, resection of the body of the zygomatic bone, and resection of the lower orbital wall. Wanach type surgery was performed in 27 (22.31%) cases. Figure N11–12 – A patient with a malignant tumor of the buccal mucosa, which infiltrated the body of the zygomatic bone, the lower orbital wall and the upper jaw bone, is presented.

Figure 8.



Figure 9.



Figure 10.



Figure 11.



Figure 12.



Partial resection of the tongue, neck lymphadenectomy – Wanach type operation, and extirpation of the salivary gland were performed in 22 (18.18%) cases. Fig. N11, Fig. N12.

During the third stage, the treatment is combined or complex in nature; the combined treatment of patients with the third stage, in addition to surgical treatment, includes radiation and chemotherapy. In particular, radiation therapy is carried out in the form of radiation therapy combined with chemotherapy in a radical program, with a total focal dose of 70 Gy. For chemotherapy, six infusions of simple new adjuvant chemotherapy were used every eighth day. Carboplatin 150 mg was used for one course. 6 vials of Carbocel 150 mg were used for one course.

Surgical treatment of the third stage group of patients is a combined-extended operation, which involves partial or complete resection of both the primary tumor and the surrounding organs and intervention on the regional lymphatic collector. In particular, in the case of malignant tumors of the buccal mucosa, these were the masticatory muscles, the alveolar ridge of the upper jaw or the lower pole of the parotid gland, and in the case of malignant tumors of the floor of the mouth or tongue, resection of half of the tongue was required, resection of the floor of the mouth together with the upper – suprahyoid muscle group of the hyoid bone. Extirpation of the submandibular salivary gland and resection of half of the lower jaw with or without exarticulation. Fig. N13, Fig. N14, Fig. N15, Fig. N16, Fig. N17.

Figure 13.



Figure 14.



Figure 15.



Figure 16.



Figure 17.



The picture shows a patient with a malignant tumor of the tongue, spreading to the floor of the mouth and the lower jaw. After surgical treatment, the defect formed was repaired using a thoraco-pectoral flap. Figure 15–16 shows a rib projected onto the defect formed after fragmentary resection of the lower jaw – a defect repaired using a thoraco-dorsal flap. Figure 17 shows the excised specimen.

In terms of regional metastasis, a Wanach operation or a full fascial-fusiform dissection of the cervical lymph nodes was performed.

In order to repair the formed defect, in 121 (53.77%) of 225 patients, a delto-pectoral or thoraco-pectoral flap was used.

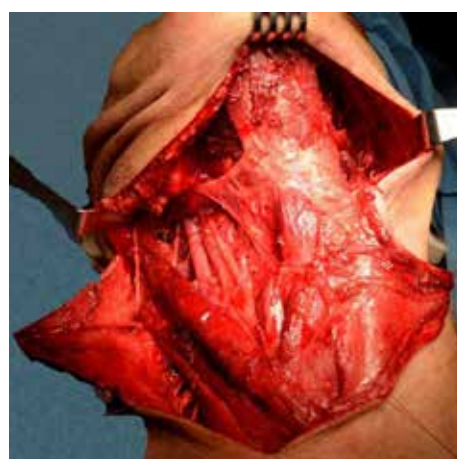
Figure 18.



Figures N18, N19, N20 and N21 show a patient with a malignant tumor of the floor

of the mouth that extends to the alveolar ridge of the mandible and the tongue. A resection of half of the tongue, a resection of half of the mandible, and a resection of the floor of the mouth were performed. The formed defect was repaired using a thoraco-pectoral flap. Figures N21, N22, N23, N24. The integrity of the mandible was restored using a titanium implant. Figures 25–26.

Figure 19.



Resection of the lower half of the mandible was performed in 59 (26.22%) cases. After resection of the lower half of the mandible, a titanium implant was used in 27 (12%) cases. Resection of the upper jaw

and alveolar ridge was performed in 33 (14.66%) cases, and resection of the lower jaw with exarticulation in 12 (5.33%) cases.

Figure 20.



Figure 21.



Figure 22.



It should be noted that after performing operations of this scale, the vast majority of patients have not undergone orthopedic

treatment in terms of restoring the dental row and dentition, which, of course, reduces the ability to chew, swallow, speak, eat and directly reduces the quality of life.

In the group studied by us, signs of tumor progression after treatment were noted only in 9 (4.11%) patients, where treatment continued with chemotherapy, and 4 (1.77%) patients underwent palliative treatment. The case of thoraco-pectoral flap necrosis was observed in two (0.88%) patients.

The group with the fourth stage mainly underwent complex treatment. Where chemoradiation treatment was performed in the first stage of treatment, and surgical treatment in the second stage in the form of combined-extended surgery, in 53 (86.88%) out of 61 cases, and in 8 (13.11%) cases the patient underwent only chemoradiation treatment or palliative treatment. And in order to restore the formed defect, a skin – muscle – mucosa – bone autograft was used using a microsurgical technique. Free autograft necrosis was observed in 2 (3.77%) out of 53 cases.

The progression of the tumor process was not observed in this group of patients, although the quality of life and vital functions of the patients were very low, or rather unsatisfactory.

As for the issue of distant metastasis, depending on whether the metastasis was subject to resection or not, the issue of surgical treatment or palliative treatment was decided. According to the ESMO recommendation, in the case of localized processes, we mainly used radiation therapy or surgical treatment in isolation from the above methods. The effectiveness of these methods is equally effective in terms of local regional control. However, conclusions were still drawn based on retrospectral clinical analysis, taking into account the individual situation.

According to our study, defects formed after surgical treatment of malignant tumors of the oral mucosa without the use of deltopectoral and thoracopectoral flaps are incompatible with life. In the treatment of stage I tumors, chemo-radiation treatment is the leading method. As for surgical treatment, it is better to use organ-preserving treatment; surgical treatment should be used only in rare cases. In addition, the thickness

of the tumor should be consistently studied and taken into account as a prognostic factor in tumor progression in the treatment of stage II tumors.

In the second stage, it is also better to perform chemo-radiation treatment in the first stage and only in the second stage to decide on surgical treatment.

As for the third stage, the treatment is complex, with chemo-radiation in the first stage and surgical treatment in the second stage in

the form of combined-extended operations. The guideline data should be inserted here.

It is necessary to refine the issues of post-operative rehabilitation of such patients, where the issue of using titanium implants or dental implants in the remaining jaw bone during the plastic-reconstructive recovery process should be highlighted, which will allow us to conduct postoperative rehabilitation of such patients and significantly improve the quality of life.

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