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RESULTS OF PREDICTING RECURRENCE OF CANCER OF THE ORAL MUCOSA

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Abstract. *Oral mucosal cancer (OMC) is a moderate oncological disease of the head and neck, characterized by a steadily increasing incidence and potentially disabling features. Response to treatment is certainly an important and practical indicator, but needs to be supplemented by other factors when building an accurate individual prognostic model. In view of the above, it becomes obvious that there is a need to develop a complementary prognostic model that can take into account parameters reflecting not only the anatomical and histological characteristics of the tumor, but also the systemic response of the body.*

Keywords: *oral mucosal cancer, oncology, treatment, relapse, outcome.*

РЕЗУЛЬТАТЫ ПРОГНОЗИРОВАНИЯ РЕЦИДИВА РАКА СЛИЗИСТОЙ ОБОЛОЧКИ ПОЛОСТИ РТА

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Аннотация. *Рак слизистой оболочки полости рта (РСОПР) является умеренным онкологическим заболеванием головы и шеи, характеризующимся постоянным повышением заболеваемости и потенциально инвалидизирующими особенностями. Ответ на лечение является безусловно важным и практическим показателем, но нуждается в дополнении другими факторами при построении точной индивидуальной прогностической модели. С учетом вышеизложенного становится очевидной необходимость разработки дополняющей прогностической модели, способной учитывать*

параметры, отражающие не только анатомические и гистологические характеристики опухоли, но и системную реакцию организма.

Ключевые слова: *рак слизистой оболочки полости рта, онкология, лечение, рецидив, исход.*

OG'IZ BO'SHLIG'I SHILLIQ QAVATI SARATONI QAYTALANISHINI BASHORAT QILISH NATIJALARI

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Annotatsiya. *Og'iz bo'shlig'i shilliq qavati saratoni - bosh va bo'yinning o'rtacha darajadagi onkologik kasalligi bo'lib, u doimiy ravishda o'sib borayotgan kasallik va potentsial nogironlik xususiyatlari bilan tavsiflanadi. Davolash samaradorligi, albatta, muhim va amaliy ko'rsatkichdir, ammo aniq individual prognostik modelni yaratishda uni boshqa omillar bilan to'ldirish kerak. Yuqoridagilarni hisobga olgan holda, o'simtaning nafaqat anatomik va gistologik xususiyatlarini, balki tananing tizimli reaktsiyasini ham aks ettiruvchi parametrlarni hisobga oladigan qo'shimcha prognostik modelni ishlab chiqish zarurati tug’iladi.*

Kalit so'zlar*: og'iz bo'shlig'i shilliq qavati saratoni, onkologiya, davolash, relaps, natija.*

Relevance. Oral mucosal cancer (OMC) is a moderate oncological disease of the head and neck, characterized by a steadily increasing incidence and potentially disabling features [3, 5].

Oral mucosal cancer (OMC) includes malignant neoplasms of the lips, tongue, floor of the mouth, buccal, gingival, retromolar, and palatal areas, as well as the soft and hard palates. According to GLOBOCAN, more than 377,000 new cases of oral cancer are registered annually worldwide, with more than 177,000 patients dying from this disease [7]. Oral cancers are not only associated with a high risk of mortality but also cause a significant decrease in quality of life, long-term disability, and severe economic consequences for the patient, family, and the healthcare

system. Current approaches to the treatment of OMC involve the mandatory use of multi-stage regimens, including surgery, radiation therapy, and chemotherapy in various combinations. In most cases of localized tumors, surgical resection followed by radiation therapy is used, while locally advanced forms require neoadjuvant chemoradiotherapy followed by radical surgery [6]. Combined treatment, including surgery, radiation, and chemotherapy, remains the preferred method. However, the risk of local recurrence and metastasis, even after multi-stage treatment, remains high, highlighting the need for more accurate predictors of adverse outcomes in the early stages [1, 2, 4].

The aim of this study is to improve the prediction of outcomes of complex treatment for RCMP by developing pathogenetically based methods based on regular changes in immune system parameters.

Materials and Methods The study included 124 patients with oncological lesions of the oral mucosa, who were examined and treated at the Bukhara regional branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology of the Ministry of Health of the Republic of Uzbekistan for the period from 2020 to 2022. All patients were verified and classified by outcomes during a three-year follow-up (until 2025) depending on the outcome of complex treatment into comparative and main groups. The criteria for inclusion of patients in the study were: morphologically verified diagnosis of malignant neoplasm of the oral mucosa (RSOPR, lateral surface of the tongue, cheeks, etc.), corresponding to ICD-10 (C01-C06); primary referral for specialized oncological care, without previous treatment (including chemotherapy, radiotherapy and immunotherapy); the age of patients from 18 to 75 years; Comprehensive treatment including surgery, radiation therapy, and/or chemotherapy, carried out within the framework of standards of oncological care; the possibility of a 3-year follow-up after completion of the main course of treatment (to assess the prognosis and outcome); verifiably obtained informed consent to participate in the study, including immunological examination and subsequent data processing.

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Study results. Comparison of relapse prediction based on treatment response assessment with actual clinical outcomes in patients in the control group demonstrates that this approach has moderate predictive validity, but in some clinical situations leads to significant discrepancies.

In patients who underwent surgical treatment, the relapse prediction based on early clinical response was 20.7%, while actual relapse occurred in 10.3% of patients. This may indicate a significant overestimation of the prediction system (more than 2-fold), or, in relative terms, by 10.4 percentage points. A similar discrepancy was noted in patients who received combination therapy: the prediction was 28.6%, while the actual relapse rate was 7.1%, that is, almost 4 times less than expected. Regardless of the relative assessment method used, the obtained data demonstrate a clear overestimation of the prognostic significance of clinical response during intensive therapy (Table 1). Against this background, in patients who received chemotherapy alone, the difference between the predicted and actual response rate was 22.3 percentage points (the predicted response rate was 77.8%, while the actual response rate was 55.6%). In other words, almost one in three patients, despite an unfavorable prognosis for clinical response, did not experience a relapse during the subsequent follow-up period.

With isolated radiation therapy, the difference was less pronounced, with the predicted response rate being 64.3% versus the actual response rate of 42.9%, equivalent to a 1.5-fold overestimation of risk.

Similar trends were observed when analyzing anatomical subgroups. For example, for tumors localized on the tongue, the difference in predicted response rate was 9.1 percentage points, while for lesions on the floor of the mouth, the predicted response rate was 61.5%, while the actual response rate was 69.2%.

Table 1

Comparative prognostic assessment of relapse of rheumatoid arthritis based on response to treatment and its actual development

Parameters	Recurrence after treatment	
	forecast	fact

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Surgeries, n (%)	12 (20,7 %)	6 (10,3 %)
Radiation therapy, n (%)	18 (64,3 %)	12 (42,9 %)
Chemotherapy, n (%)	14 (77,8 %)	10 (55,6 %)
Combination therapy, n (%)	16 (28,6 %)	4 (7,1 %)
Tumor location in the tongue, n (%)	12 (27,3 %)	8 (18,2 %)
Tumor location in the cheek, n (%)	14 (38,9 %)	12 (33,3 %)
Tumor location in the floor of the mouth, n (%)	16 (61,5 %)	18 (69,2 %)

Thus, the obtained preliminary data may indicate that the actual risk of recurrence, as shown by the lesion data, exceeded the predicted value, which is likely due to the anatomical complexity of the lesion and the difficulty in assessing residual tumor after treatment.

The differences in TNM staging were less pronounced: for stages I-II, the predicted recurrence rate was 18.5%, while the actual recurrence rate was 11.1%, while for stages III-IV, the respective rates were 57.1% and 52.4%. This demonstrates acceptable assessment accuracy in the early stages, but a tendency toward overestimation with progression. Such changes were characteristic of a number of clinical cases, for which we provide a description of one.

Example 3.8. Patient B.N., 62, was admitted with complaints of tongue pain and limited mobility. Diagnosis: "cancer of the tongue mucosa, T2N1M0, stage III, G2." A combination treatment was performed: surgical hemiglossectomy with flap formation; bilateral lymph node dissection (levels I-III); and a course of external beam radiation therapy (60 Gy). A complete clinical response was recorded at a follow-up examination after 3 months. Based on the treatment response, the risk of recurrence was predicted to be no more than 28.6%. However, despite the achieved effect, the patient developed a locoregional recurrence at 14 months of follow-up. Despite the early complete response and low predicted risk, the disease progressed, highlighting the insufficient reliability of response as an isolated prognostic criterion.

This clinical case demonstrated how a relapse of the oncological process developed despite a significant early clinical response. Another clinical case,

however, showed that the patient did not relapse despite a partial response and a high prognostic risk for cancer pathology.

Example 3.9. Patient F.G., 69, presented with complaints of swelling in the cheek area, limited mouth opening, and bad breath. The diagnosis was T3N1M0, stage III, G2, cancer of the left buccal mucosa. Her functional status was assessed at ECOG 2. Due to the high anesthetic risk and the presence of decompensated coronary artery disease, a decision was made to refrain from surgical intervention and chemotherapy and radiation therapy were planned. The patient received external beam radiation therapy at a dose of 60 Gy and chemotherapy with cisplatin 40 mg/m² weekly, for a total of 5 administrations. A partial clinical response was noted during the treatment, manifested by a 40-45% reduction in tumor volume, edema, and pain. The prognosis according to the response criteria was assessed as unfavorable, with an estimated recurrence risk of up to 77.8%. However, no relapse was recorded during 24 months of follow-up, and the patient fully recovered to an ECOG performance status of 1.

Thus, despite a partial response and a formally high predicted risk, the patient did not actually relapse, which may indicate an overestimation of clinical response as a universal indicator of prognosis. Perhaps the tumor's continued therapeutic sensitivity or other clinical factors played a role that was not assessed within the standard approach.

Thus, despite a partial response and a formally high predicted risk, the patient did not actually develop a relapse, which may indicate an overestimation of clinical response as a universal prognostic indicator. Perhaps the tumor's continued therapeutic sensitivity or other clinical factors played a role not assessed within the standard approach.

These data showed that clinical response to treatment, both surgical and conservative, does not always directly correlate with the subsequent risk of relapse. Across all key treatment subgroups, a tendency to overestimate risk based on the initial treatment effect was observed, particularly in cases of partial or complete response. The difference between the predicted and actual relapse rates varied. For

example, in patients who underwent surgery, the relapse rate was twofold, while with combination therapy, it was fourfold. With chemotherapy alone, the relapse rate was minimal at 1.4 times, and with radiation therapy alone, it was slightly higher (1.5 times). These differences are most significant in clinical decisions, where the choice of treatment is based on early response. However, as examples show, even a significant response does not guarantee the absence of relapse, and conversely, as our studies have shown, a partial response does not always mean subsequent progression.

Conclusion. Treatment response is undoubtedly an important and practical indicator, but it requires complementary factors when constructing an accurate individual prognostic model. Given the above, the need for a complementary prognostic model capable of incorporating parameters reflecting not only the anatomical and histological characteristics of the tumor but also the body's systemic response is clear.

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