Xi'an ShiyouDaxueXuebao (ZiranKexue Ban)/
Journal of Xi'an Shiyou University, Natural Sciences Edition
ISSN:1673-064X
E-Publication:Online Open Access
Vol: 66 Issue 01 | 2023
DOI 10.17605/OSF.IO/B5DG2

CANCER OF THE MUCOUS MEMBRANE OF THE ORAL CAVITY

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ABSTRACT

Analysis of the treatment results of patients with cancer of oral mucosa (CoOM) in 202 patients for the period from 2016 to 2021 years was carried out at National Center of Oncology and Hematology under the Kyrgyz Republic Ministry of Health. The data on patients' survival with oral mucosa cancer subjected to various methods of treatment are presented.

KEYWORDS: morbidity, diagnosis, malignant tumors, oral mucosa, combined treatment, radiation therapy, chemotherapy, surgery, operations, survival.

1. INTRODUCTION

At the present stage, there is a steady increase in the incidence of malignant neoplasms. Wherein changes not only the structure, but also the dynamics of cancer incidence.

In the structure of malignant tumors' incidence, neoplasms with localization in the head and neck area account for 16 to 25%. More than 80 thousand patients with this pathology registered annually in Russia. In Russia, in 2021 year, 8461 new cases of oral mucosa cancer were registered [1], while the patients average age was 61 years, and more than 30 patients are detecting annually in the Kyrgyz Republic.

The five-year survival rate for squamous cell tumors of head and neck, depending on the stage, varies within the following limits: stage I is 75-90%, stage II is 40-70%, stage III is 20-50%, stage IV is 10-30% [2].

The main prevention of recurrence and distant metastases is the correct choice of treatment. In this case, combinations of various methods of radical therapy (surgical, radiation, chemotherapeutic and radiation) can be successfully used [2,3,4,5,6,7].

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2. MATERIALS AND METHODS OF RESEARCH

An analysis was made on results of the oral mucosal cancer treatment (CoOM) in 202 patients for the period from 2016 to 2021 year. The material of this work was data on all cases of morbidity and mortality of the oral mucosa malignant neoplasms observed in the National Center of Oncology and Hematology of the Kyrgyz Republic Ministry of Health for this period. Medical records of outpatients (form No. 025/U), control cards for dispensary observation (form No. 30-6/U), medical records of an inpatient and extracts (form No. 27/U), patient notifications for the first time in life established diagnosis of cancer (form No. 090/U).

Table 1: Patients distribution with CoOM by regions.

Regions	Absolute number	%
Bishkek	31	15.3
Chui	56	27.7
Issyk-Kul	23	11.4
Naryn	12	5.9
Talas	13	6.4
Osh	29	14.4
Zhalal-Abad	24	11.9
Batken	14	6.9
Total	202	100 %

Table 1 shows that more than 27% of patients were from Chui region. We attribute this to the high demand of population in this region for oncological care. An important role, in our opinion, is played by the cultural and ethnic traditions of local population in the southern regions. For example, such as the use of hot drinks and their frequent traumatization of the oral mucosa, the use of non-smoking tobacco (nasvay), which contains strong carcinogens (tobacco, slaked lime, sometimes plant ash). Since slaked lime or plant ash changes acidity of environment (to the alkaline side) and increases the absorption of nicotine and other carcinogens, which increases tissue trauma with subsequent mutation of mucosal cells. This, together with other factors, led to oral mucosa cancer. More than 30% of male smokers used nasvay. Also from the table one can note a low percentage in the northern regions such as Talas and Naryn. It can be assumed that there are unsatisfactory social and organizational problems in diagnosing this disease in the above-mentioned northern regions of the republic. We do not yet have any other assumptions regarding these relations.

In all 202 cases, the diagnosis was established based on a morphological study, where in more than 70% of cases, diagnosis was verified in the outpatient diagnostic department of the National Center for Oncology and Hematology under the Kyrgyz Republic Ministry of Health. Squamous cell keratinizing cancer was diagnosed in 148 (73.3%) patients, squamous cell nonkeratinized cancer was diagnosed in 53 (26.2%) patients, and poorly differentiated cancer (spindle cell carcinoma) was detected in 1 patient (0.5%).

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From the total number of patients, there were 121 (59.9%) men and 81 (40.1%) women. The highest incidence rate in men was observed at age from 50 to 69 years old, and as the age increases, a decrease is noted. In women, age characteristics of the incidence are practically the same as in men. It should be noted that in the age group from 30 to 39 years old, the incidence rate in men was slightly higher than in women.

Most patients were identified in the age group from 50 to 69 years old (64.4%). Among men who had oral mucosa cancer, there were 74% smokers with a long history, in which 33% of men were chewing non-smoking tobacco products (nasvay). Female smokers were found in 16% of observations. More than half of women associated the appearance of formations with false dentures. According to localization of the primary tumor in the oral cavity: tongue were 77 (38.1%), floor of the mouth were 34 (16.8%), buccal mucosa were 13 (6.4%), hard palate were 9 (4.6%), soft palate were 8 (3.9%), palatine arches were 15 (7.4%), alveolar part of the upper and lower jaws were 46 (22.8%).

In the disease anamnesis, it turned out that the appearance of tumors is associated with frequent traumatization of tongue by the sharp edges of carious teeth and poorly matched false dentures.

Table 2: Patients grouping by stages with CoOM.

Stage	Absolute number	%
I	6	3.0%
II	72	35.6%
III	66	32.7%
IV	58	28.7%
Total	202	100%

Despite the fact that this pathology is available for early detection during examination, 124 (61.4%) patients were admitted in advanced stages (III-IV stages). This is due to the great similarity of malignant tumor manifestations appearance with various inflammatory processes in the oral cavity mucous membranes, as well as the lack of oncological alertness among doctors in regions. It should be added that traditional methods of treating malignant tumors are uncontrollably spread among the local population in the regions.

Cancer metastases in regional lymph nodes were clinically and ultrasonographically detected in 67 (33%) cases, of which in 43 (64%) cases they were located on one side, and in 24 (36%) cases on both sides. Basically, cancer metastases of this localization affected submental (IA level), submandibular (IB level) and upper jugular lymph nodes (IIA and IIB levels). Metastasis to the middle and lower jugular (III and IV levels) and supraclavicular (VA and VB levels) groups of lymph nodes were rare.

Distant metastases were detected in 17 (9.2%) patients. From these metastases in the lungs were 5, in the brain were 2, in the thoracic spine in 1 patient and in the rest to other distant lymph nodes.

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Methods of treatment used in patients with cancer of the oral mucosa

Table 3: Methods of patients' treatment with CoOM.

Treatment methods	Absolute number (%)
Surgical treatment only	30 (14.9%)
Surgical treatment with a course of radiation therapy or with competitive chemoradiotherapy	95 (47.0%)
Radiation therapy	32 (15.8%)
Radiation therapy + chemotheraphy	33 (16.3%)
Chemotheraphy	12 (6.0%)

The use of a combined treatment method, combining radiation therapy and surgery, in patients with oral mucosa cancer remains as most common both in our country and abroad. Five-year recovery according to various authors reaches 25-40% of cases.

All patients underwent a histological examination after surgery, where the following points were directly determined and evaluated: 1) the degree of differentiation, 2) resection margins, 3) tumor size,4) presence of extranodular spread in the lymph nodes, 5) presence of perivasal and perineural invasion by cancer cells. If only one point out of five was positive, the patient received radiation therapy to the primary focus and areas of regional metastasis up to a total focal dose (TFD) of 60 Gy or competitive chemoradiotherapy: radiation therapy of TFD 60 Gy and Cisplatin 100 mg/m^2 once every 3 weeks. Neoadjuvant chemotherapy in the regimen: cisplatin 100 mg/m^2 intravenously on the 1st day and 5 Fluorouracil 1000 mg/m^2 of body surface per day as a continuous 96 hour intravenous infusion on the 1st and 4th days was received by 10 patients. Due to the ineffectiveness of the above regimen, 2 patients received the regimen: Cetuximab 400 mg/m^2 intravenously for 2 hours infusion on the 1st day of the first course and Cetuximab 250 mg/m^2 with an infusion for 1 hour on the 8th and 15th days and 1st, 8th, 15th days of subsequent courses. Repeat courses every 21 days. Radiation therapy in combined, complex and independent form was received by 160 (79.2%) patients out of 202.

Factors affecting survival in cancer of oral mucosa (CoOM).

At the first stage, we studied such factors as the primary tumor stage, or the neoplasm size. In the Table 4 overall survival in years of patients with oral mucosa cancer depending on the primary tumor size is presented. The size of neoplasms ranged from 0 to 4 cm or more. Such gradation in division from 0 to 2 cm, from 2 to 4 cm and more than 4 cm is generally accepted and corresponds to the international TNM classification.

Table 4: Survival of patients with CoOM depending on the primary tumor size.

Term in years	Total survival (in %)		
	T_2	T_3	T_4
1 year	76.2±9.8%	67.4±6.8%	48.2±8.2%
2 years	49.6±10.2%	35.8±8.2%	8.0±5.9%

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Table 4 shows that the one-year survival rate of patients with oral mucosa cancer differed depending on the primary tumor size and its relationship with nearby anatomical structures. Almost at all follow-up periods (from 1 to 2 years), survival was higher in the patients' group with primary tumor sizes from 2 to 4 cm.

The one-year survival rate of patients with cancer of the tongue and mucosa of alveolar process of the upper and lower jaws was statistically unreliable. The same trend continues in the future, with an increase in observation period, i.e. The location of oral tumor does not affect survival rates.

Results obtained in our studies showed that one- and two-year survival with N_0 (68.7±6.2%; 37.9±7.5%) was statistically significantly higher than with N_1 (46.5±8.6%; 12.2±7.4%) and N_2 (47.6±12.8%; 7.0±6.3%) ($P<0.05$). It is noteworthy that with the defeat of N_1 and N_2, the survival rates of these patients were not statistically significant. Analysis of data on five-year survival showed that the lowest rates were obtained with N_2 damage (0.7±0.6%), and this difference was not statistically significant compared with all other groups of patients. A rather low survival rate was also noted among the patients' group with N_0 (9.6±8.0%) compared with N_1 (3.0±2.2%).

Table 5: Survival of patients with CoOM depending on the presence or absence of damage in the regional lymph nodes of the neck.

Observation period	Localization of affected lymph nodes		
	N_0	N_1	N_2
1 year	68.7±6.2%	46.5±8.6%	47.6±12.8%
2 years	37.9±7.5%	12.2±7.4%	7.0±6.3%

We have studied the overall survival of patients with cancer of the oral mucosa, depending on patients age at the time of diagnosis. The data is shown in Table 6.

Table 6: Survival of patients with CoOM depending on age.

Observation period	40-49 years old	50-59 years old	60-69 years old	70 years and older
1 year	36.5±9.0%	61.9±8.0%	71.0±6.9%	54.0±9.6%
2 years	15.5±10.3%	23.5±9.2%	27.0±8.8%	26.7±11.8%

Analysis of immediate results after radiation therapy showed that in this group, in 73.3% of patients, the tumor was not sensitive to radiation therapy. Partial regression was found only in 26.7% of cases. The obtained results indicated that stabilization of tumor growth in cancellation of radiation treatment should be performed in compliance with all the strict rules of radicalism, because it can be expected that the tumor cells are only slightly damaged.

Recurrence of the disease after various volumes of surgical interventions in terms of 3 months to 1.5 years was detected in 32% of patients. Regional metastases after the combined method of patients treatment with cancer of oral mucosa occurred in 15.6% of cases.

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Table 7: Survival of patients with CoOM, depending on the methods of treatment used.

Observation period	Radiation therapy in combination with surgical	Radiation therapy	Chemo radiotherapy	Surgical therapy
1 year	78.2±8.7%	58.7±8.9%	62.4±12.6%	79.6±8.9%
2 years	68.6±7.2%	43.3±9.1%	25.9±8.8%	74.4±10.7%

The index of patients' two-year cumulative survival from the volume of surgery: typical was 76.6±10.2%, combined was 76.4±12.5% and combined-extended was 57.0±12.1%.

In terms of patients' observation with oral mucosa cancer after a combined method of treatment for two years, 68.6 ± 7.2% are alive. Thus, it can be assumed that patients treatment results with this oncological pathology associated with inclusion of a surgical stage in case of ineffective radiation. High rates in surgical treatment are explained by fact that in this group, majority of patients with oral mucosa cancer were in stages I and II of the disease.

CONCLUSIONS

The treatment of oral mucosa cancer remains as multimodal problem: radiation therapy, drug treatment and surgery are used in various sequences and combinations.

Factors are influencing prognosis of oral mucosa cancer treatment results: tumor localization, disease stage (primary tumor size, local prevalence), the presence of regional metastases, and patient age.

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