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**MULTIDISCIPLINARY APPROACH IN THE TREATMENT OF SQUAMOUS CELL
 CARCINOMA AT REGIO GLOSSUS**

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ABSTRACT

Background: Squamous Cell Carcinoma (SCC) is the most common case of oral cancer which often occurs laterally on the tongue and rarely develops on the dorsal surface of the tongue. More than half of the cases are diagnosed late, thereby reducing the survival rate of the patients. **Objective:** This report was intended as an evaluation for the management of squamous cell carcinoma under multidisciplinary approach between oral surgery and other departments, as well as the provision of further post-operative treatment. **Case Report:** The author presents a case of 68-years-old female patient with a lump and an ulcer on her tongue. Around six months prior to the visit, patient complained of tongue ulcer followed by the emergence of a lump in a size of a corn seed. The lump was gradually enlarged with constant widening of the ulcer. Pain on the tongue was also perceived. The patient was then referred to Hasan Sadikin Hospital for further treatment. **Case Management:** Patients underwent hemiglossectomy and Selective Neck Dissection (SND) surgical procedures performed by Oral and Maxillofacial Surgeon in collaboration with Surgical Oncologist. Furthermore, after surgery, the patient was consulted to the Hemato-Oncology Division of Internal Medicine Department for chemotherapy treatment. **Conclusions:** The exact diagnosis was made based on the histopathological biopsy results of the tongue tissue. Management of tongue cancer must be done multidisciplinary. Some things that must be considered in handling such cases are the eradication of the tumor, the return of oral cavity function, and the aesthetic/functional aspects of the patient.

Keywords: *Oral cancer, Squamous cell carcinoma, Tongue cancer*

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INTRODUCTION

Tongue cancer is a malignant type of carcinoma of the tongue, and nearly 95% cases are diagnosed as Squamous Cell Carcinoma (SCC). Tongue carcinomas are mostly developed on the anterior two-thirds of the tongue, generally on the lateral and the lower edges of the tongue in a total of 40-75% cases. This malignancy occupies 1% incidence of all carcinomas of the body and is the most common oral malignancy, which is about 25-45% occurrence. More than half the cases are diagnosed late, thereby reducing the survival rate of the patients.^{1,2}

The etiology of Squamous Cell Carcinoma of the tongue is believed to be multifactorial, and it is associated with tobacco use as in cigarettes. The diagnosis of Squamous Cell Carcinoma of the

tongue can be confirmed only by clinical examination. Histological examination is necessary to confirm the diagnosis of Squamous Cell Carcinoma of the tongue.^{3,4}

This case report was intended as an evaluation for the management of squamous cell carcinoma under multidisciplinary approach between oral surgery and other departments, as well as the provision of further post-operative treatment.

CASE

A 68-year-old female patient came to the Oral Surgery Clinic of Hasan Sadikin Hospital with a chief complaint of bumps and sores on the right side of her tongue. Around six months before

visiting the Oral Surgery Clinic of Hasan Sadikin Hospital, the patient complained of cancer sores on the tongue that did not heal. Sometime later, a lump in the size of a corn seed appeared around the wound of the tongue. The lump was gradually enlarged, and the ulcer was constantly expanded. Around two weeks before coming to the Oral Surgery Clinic of Hasan Sadikin Hospital, another complaint arised that the patient experienced pain and stiffness of the tongue that it could not be moved. The patient was then taken to a public hospital in Indramayu district, West Java. Patient was referred to Hasan Sadikin Hospital because it requires a more comprehensive and quick treatment.



Figure 1. Patient profile photo



Figure 2. Pre-op intraoral photo

CASE MANAGEMENT

After completing the clinical examination at the Oral Surgery Clinic of Hasan Sadikin Hospital, a decision to prepare for surgery under general anesthesia was made. Treatment for all malignancies, especially Squamous Cell Carcinoma of the tongue, was crucial to do immediately, considering the time was closely related to the prognosis and survival rate of the patients. Squamous Cell Carcinoma of the tongue in the patient at this time can still be managed with surgical procedures, so the decision to do hemiglossectomy was made. Clinical examination also found enlargement of several lymph nodes, so Selective Neck Dissection (SND) was proposed after consultation with doctors from the Surgical Oncology Department of Hasan Sadikin Hospital.



Figure 3. Pre-op in the operating room and grossus tissue dextra performed with the VC procedure.

The diagnosis of Squamous Cell Carcinoma of the tongue can not only be done from a clinical examination but also based on the results of histopathological examination. Consultation to Pathology Anatomy Departement was considered after Vries Coupe (VC) procedure, which was done during the surgery to identify whether the tumor boundaries have all been removed and to determine the type of tumor histopathologically.

The patient underwent a chest x-ray examination, a complete blood lab, an electrocardiogram, and a lung physiology test as an initial examination in preparation for surgery under general anesthesia. The analysis results found ureum result: 95.5 mg / dL and creatinine: 5.36 mg / dL, so the patient was first consulted to the Internal Medicine Department and then diagnosed with Chronic Kidney Disease (CKD). Patient was priorly managed by colleagues from the Internal Medicine Department so that the CKD condition of the patient was improved and the patient was qualified for surgery.



Figure 4. Post-operative photos



Figure 5. Selective Neck Dissection (SND) procedure and lymph gland tissue

The stage of action in the operating room began with exploring the boundary of the tongue at the base of tongues. The procedure of hemiglossectomy was performed on the 2/3 anterior boundary of the glossus and the medial line of the tongue, then VC examination limit was

conducted on the network. The results for pathological anatomy examination with VC revealed that Squamous Cell Carcinoma was well-differentiated a.r glossus dextra based on surgery and the entire incision is free of tumor mass surgery.

In this case, a Selective Neck Dissection (SND) procedure was performed to extract a portion of the lymph nodes involved. Lymph nodes were taken at the superior to the inferior border of the sternocleidomastoid muscle. Intra-operative findings found lymph nodes, grey-white colour, brittle, easily bleed, in a diameter of 2-2.5 cm. The next step was to control bleeding and suture the muscles and cutis.



Figure 6. Post-operative day 1



Figure 7. Post-operative day 2

The patient arrived to the Oral Surgery Clinic at Hasan Sadikin Hospital on the 22nd day post-operation. The condition of the wounds on the neck and the tongue had completely healed, and then as a treatment option, further chemotherapy was performed. Patients were consulted to colleagues in Hemato-oncology Division for chemotherapy treatment.



Figure 8. Post-operative day 22

DISCUSSION

Malignant tongue tumor is a malignancy found on the tongue. The most common form is a squamous cell carcinoma of the tongue. Tongue squamous cell carcinoma is one form of oral carcinoma that has the highest prevalence of all oral cavity malignancies. This rarely occurs before age 40 and the highest incidence of this disease is spotted in the sixth and seventh decade, with a ratio of men to women is 3: 1. Risk factors for the essential development of tongue carcinoma include chronic alcohol and tobacco use, older age, geographical location, and family history of aerodigestive canal cancer.⁵⁻⁸

Symptoms of tongue cancer include ulcers (sores) that do not heal with adequate treatment and easily bleed. The middle part of the ulcer is relatively soft and bleeds easily. Bleeding occurs when pressure is applied to the site of cancer while chewing, drinking, or swallowing. The stage of tongue carcinoma is determined using the stage classification method conceded by the 2002 United States (AJCC) and France (UICC) agreement, 7th edition.^{2,5,9}

Table 1. TNM stage classification of carcinoma of the tongue based on the 2002 United States (AJCC) and French (UICC) agreement.

Primary Tumor		Regional lymph nodes		Metastasis	
Tx	Primary tumor cannot be assessed	Nx	Regional lymph node metastases cannot be assessed	Mx	Metastasis cannot be assessed
T0	No tumor was seen	N0	No palpable enlargement of the gland	M0	No metastasis
Tis	Tumor in situ	N1	Diameter < 3 cm, single, ipsilateral	M1	There is metastasis
T1	Diameter < 2 cm	N2a	Diameter 3-6 cm, single, ipsilateral		
T2	Diameter 2-4 cm	N2b	Diameter < 6 cm, multiple, ipsilateral		
T3	Diameter > 4 cm	N2c	Diameter < 6 cm, multiple, bilateral or contralateral		
T4a	Tumor develop into the cortex of the bone, deep tongue muscles or muscles of the tongue, maxillary sinuses, facial skin	N3	Diameter > 6 cm		
T4b	Tumor invasion into the posterior cleft of the molar teeth, pterygoid plate, base cranium, A. carotid int				

Clinical Staging and Classification of Cancer

Stage 0	: Tis N0 M0
Stage I	: T1 N0 M0
Stage II	: T2 N0 M0
Stage III	: T3 N0 M0; T1/T2/T3 N1 M0
Stage IVA	: T4A N0/N1 M0; T1/T2/T3/T4A N2 M0
Stage IVB	: All of T N3 M0; T4B All of N M0
Stage IVC	: All of T All of N M

Surgery for tongue carcinoma on the anterior part of the tongue is carried out with a transoral approach in the form of extensive excision, hemiglossectomy, or subtotal glossectomy. Wide excision is a technique for taking the tissue less than half of the tongue. Hemiglossectomy is the partial removal of the tongue tissue, while subtotal glossectomy is the removal of the tongue tissue more than half but not the entire tongue is taken.¹⁰

Therapy for malignant tongue cancer is an intricate issue. Therefore, several therapeutic algorithm are done either by medication (cytostatics) or surgery and radiation or a combination of radiation and surgery. Radiotherapy is performed if tumor is inoperable, T3 or more, N3, M0 - M1, Tumor on 1/3 posterior tongue (due to carcinoma of the tongue on 1/3 posterior to one group with hypopharynx).^{3,10,11}

Metastases in tongue cancer from the lymph nodes of the neck are high and not radiosensitive, so surgery is the therapy of choice. When clinical appearance arises from N1-N2 metastatic lesions, Radical Neck Dissection (RND) procedures and post-operative radiotherapy should be performed. Around 40% of post-operative T2 stage patients can experience neck metastasis, then preventive therapy for lymph node metastases of the neck is increasingly important. Patients with T2-T4 stage, although lymph node enlargement is not clinically palpable, also have to receive Selective Neck Dissection (SND). Any T3-T4 patient should have an RND as part of the first surgical therapy.¹¹

The prognosis for carcinoma of the tongue depends mainly on the stage of the disease. At an advanced stage, the disease has a poor prognosis compared to the early stages. Cancers that have poor differentiation rates will make the prognosis worse. Tongue carcinoma with metastases to the lymph nodes of the neck has only half of a five-year life expectancy when compared to carcinoma of the tongue without metastasis to the lymph nodes.^{11,12}

Patients underwent hemiglossectomy and SND surgical procedures performed by Oral and Maxillofacial Surgeon in collaboration with Surgical Oncologist. Furthermore, after surgery, the patient was consulted to the Hemato-Oncology

Division of the Internal Medicine Department for chemotherapy treatment.

Malignant tumors of the tongue that were not treated will immediately spread to the tissues in the oral cavity and the deeper neck. It will spread to the surrounding lymph nodes eventually. Patients will experience complications resulting from the spread. Cases of tumors that were performed early detection and appropriate and adequate treatment showed an excellent prognosis.¹³

Conclusions of this case, the final diagnosis is made based on the histopathological biopsy results of the tongue tissue. Management of tongue cancer must be done multidisciplinary. Some things that must be considered in handling this cancer of the tongue is the eradication of the tumor, the return of oral cavity function, as well as the aesthetic/functional aspects of the patient.^{1,14,15}

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