

Management of Soft Tissue Upper Jaw Tumor in a 51 Year Old Female Patient at Sultan Fatah Hospital, Demak Regency: Case Report

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ABSTRACT

Background: Benign tumors are collections of cells, tissues or organs that grow slowly and usually enlarge with peripheral expansion, pushing on surrounding structures. Squamous odontogenic tumor (SOT) is a very rare benign epithelial intraosseous tumor, which can cause arising from the neoplastic transformation of Malassez epithelial cells on the lateral surface of the periodontal ligament. **Objective :** To discuss the management of odontogenic squamous tumors using conservative surgical excision. The goal of treatment for oral myxoma was surgical excision. **Case management:** A 51 year old female patient came to the SULTAN FATAH Hospital Polyclinic, Demak Regency on May 26 2023 with complaints of a lump on the upper left gum of the jaw. The patient felt the lump about 1 year ago. The patient does not feel pain in the lump. Clinical examination showed a lump in the upper jaw on the front of the patient's left side. **Conclusion :** Management of the patient undergoing surgical excision of the tumor with general anesthesia and infiltration in the case of odontogenic squamous tumor, based on subjective examination the patient complained of a lump with a tumor mass measuring 10 x 8 cm, redder than the surrounding tissue, round, not moving, attached to the gums of the upper jaw.

Keywords: Squamous Odontogenic Tumor (SOT) ; Oral Surgery

ABSTRAK

Latar Belakang: Tumor jinak adalah kumpulan sel, jaringan, atau organ yang tumbuh perlahan dan biasanya membesar dengan perluasan perifer, menekan struktur sekitarnya. Tumor odontogenik skuamosa (Squamous Odontogenic Tumor, SOT) adalah tumor epitel intraosseous jinak yang sangat langka, yang dapat timbul akibat transformasi neoplastik sel-sel epitel Malassez pada permukaan lateral ligamentum periodontal. **Tujuan:** Membahas penanganan tumor odontogenik skuamosa dengan eksisi bedah konservatif. Tujuan pengobatan untuk miksom oral adalah eksisi bedah. **Penatalaksanaan Kasus:** Seorang pasien wanita berusia 51 tahun datang ke Poliklinik Rumah Sakit Sultan Fatah, Kabupaten Demak pada tanggal 26 Mei 2023 dengan keluhan adanya benjolan pada gusi kiri atas rahang. Pasien merasakan benjolan tersebut sekitar 1 tahun yang lalu. Pasien tidak merasakan nyeri pada benjolan tersebut. Pemeriksaan klinis menunjukkan adanya benjolan di rahang atas pada bagian depan sisi kiri pasien. **Kesimpulan:** Penatalaksanaan pasien dilakukan dengan eksisi bedah tumor di bawah anestesi umum dan infiltrasi dalam kasus tumor odontogenik skuamosa. Berdasarkan pemeriksaan subjektif, pasien mengeluhkan adanya benjolan dengan massa tumor berukuran 10 x 8 cm, lebih merah daripada jaringan sekitarnya, berbentuk bulat, tidak bergerak, dan melekat pada gusi rahang atas.

Kata Kunci: Tumor Odontogenik Skuamosa (SOT) ; Bedah Mulut

1. Introduction

A tumor or neoplasm is an abnormal growth from within the body resulting from excessive, autonomous cell proliferation which can become a growth even after the cessation of stimulation (tumor swelling). Tumors can be divided into 2, namely benign tumors and malignant tumors. Benign tumors are masses of cells, tissues/organs that grow slowly and can usually

enlarge by peripheral expansion, pushing on surrounding structures and do not show metastasis but can cause death directly related to the dangerous location of growth, for example a tumor in the neck which can press on the ducts. breathing¹.

Soft tissue tumors are a heterogeneous group of benign and malignant lesions that develop from a variety of nonepithelial, extraskeletal elements, including adipose tissue, smooth and skeletal muscle, tendons, cartilage, fibrous tissue, blood vessels, and lymphatic structures. Malignant tumors can quickly infiltrate surrounding tissue, including vital structures, and can spread to their host. This tumor can usually show metastases in distant parts of the body through the lymph and blood flow². In Indonesia, tumor prevalence showed an increase from 1.4 per 1000 population in 2013 to 1.79 per 1000 population in 2018. Tumor prevalence in Lampung reached 1.40 per 1000 population. Research also states that for every 1000 people there are around 4 tumor sufferers. This factor continues to increase in the following years so that in a period of 10 years (2005-2015) WHO estimates that the number of deaths due to tumors will average 8.4 million every year and in 2015 it will reach 9 million people.¹.

Clinical picture of *squamous odontogenic tumor* namely, there is swelling but is not painful, can be painful if the swelling occurs in the gingiva, affects the attachment of the teeth involved, occurs at an average age of 38 to 74 years, multiple squamous odontogenic tumors, absence of periodontal ligament between the lesion and the root of the tooth indicates that the lesion arises from Malassez rest cells in the periodontal ligament or adjacent mucous membrane, can be located on the maxilla and mandible but most commonly involves the incisor-cuspid area in the maxilla and the bicuspid-molar area in the mandible. Based on the histological appearance of squamous odontogenic tumors, they are shaped like irregular islands of squamous epithelium in a fibrous connective tissue stroma.³. This paper contains a case, namely a 51 year old woman who complained of a lesion measuring 10 x 8 cm which had appeared on the gums of the left upper jaw for approximately 1 year which had not healed with slow growth. A biopsy was performed under general anesthesia and a diagnosis was obtained *tumor squamous odontogenic*.

2. Case Report

A 51-year-old female patient presented to Sultan Fatah Regional Hospital in Demak Regency on May 26, 2023, with a complaint of a lump on the gum of her upper left jaw. She first noticed the lump about a year ago, and although she did not experience any pain from it, she had never encountered a similar issue before. Initially, the lump was small, and the patient only perceived it as a mild swelling without discomfort. There is no family history of similar conditions. Upon physical examination, the patient was fully conscious (*compos mentis*) with a blood pressure reading of 143/84 mmHg, a body temperature of 36°C, a respiratory rate of 20 breaths per minute, and a pulse rate of 110 beats per minute. Intraoral examination revealed a firm, well-defined bulge on the anterior upper left jaw, measuring 10 x 8 cm, with a rubbery texture and erythema. Laboratory tests showed eosinophils at 5%, neutrophils at 73%, and MCHC at 37.6%. Radiographic findings indicated the presence of residual roots in teeth 16, 15, 14, 13, 21, 22, 24, 25, 27, 35, 33, 42, 44, and 45, along with radiolucent areas around the apical regions of teeth 22 to 24 and tooth 33, and a missing tooth. Based on the subjective examination, a diagnosis of a squamous odontogenic tumor in the left maxilla was made. The proposed treatment plan involves the excision of the soft tissue tumor under general anesthesia, followed by suturing, with a follow-up scheduled one week post-surgery.

Figure 1 consists of three parts, showcasing the clinical and radiographic examination results of a patient with a squamous odontogenic tumor. Images A and B display intraoral views of the patient's upper left jaw, where a noticeable mass is visible on the gum. The mass appears erythematous (reddish) and has a rubbery texture, protruding from the surrounding tissue. These images illustrate the size and surface characteristics of the tumor from different angles. Image C is a panoramic radiograph showing the entire dental and jaw structure. The radiograph reveals radiolucent areas around the apices of several teeth, which may be associated with the presence of the tumor or other dental pathology. Additionally, several teeth are missing, and residual roots are visible in the jaw, supporting the findings observed during the clinical examination. Collectively, these images provide visual and radiographic evidence of the impact of the odontogenic tumor on the patient's oral structures.

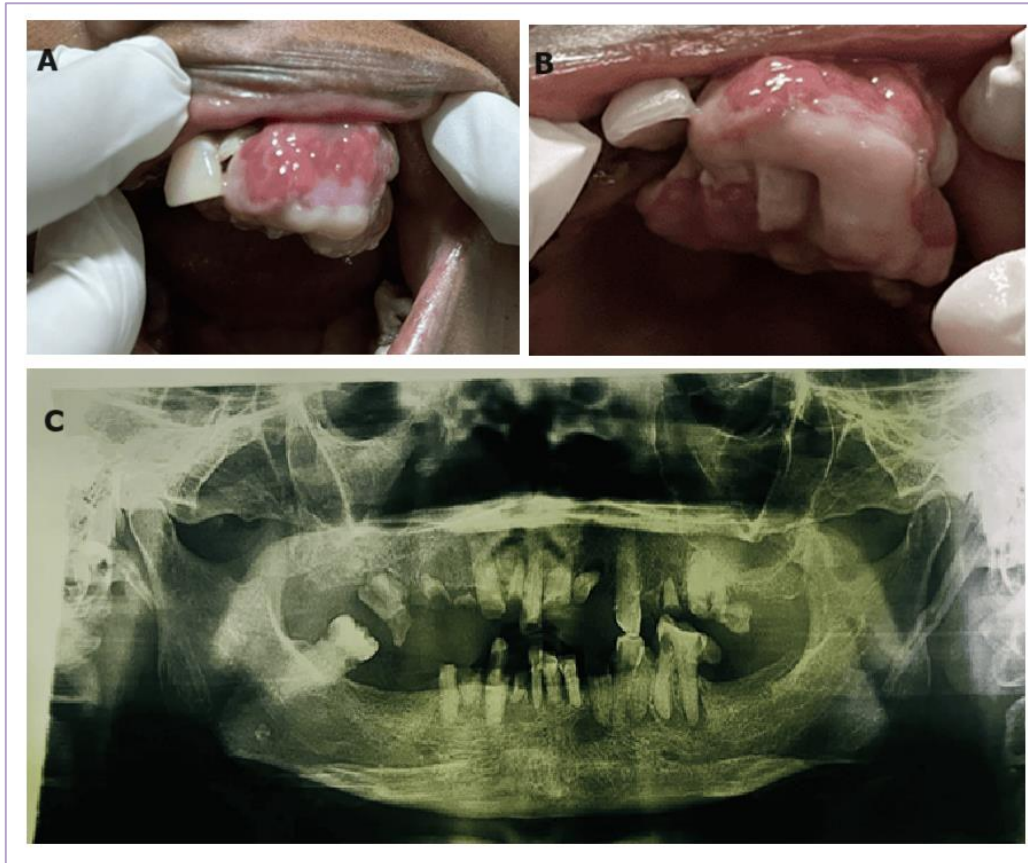


Figure 1. Case report Photo. (A, B) Clinical examination photo, (C) Radiographic Image.

Figure 2 depicts the tumor excision process in a patient with a squamous odontogenic tumor. Image A shows the condition before excision, where the tumor is clearly visible inside the patient's mouth, protruding and red in color, after the surgical area was prepared with asepsis using 10% povidone iodine. Image B shows the condition after excision, where the tumor has been successfully removed and placed on a white gauze. The excised tumor is significant in size, with a red appearance and some areas showing signs of bleeding, indicating that the excision was successfully performed. The case management involved surgical excision under general anesthesia and local infiltration. The procedure began with cutting the lesion's surface using a No. 11 scalpel, followed by suturing after hemostasis was achieved.

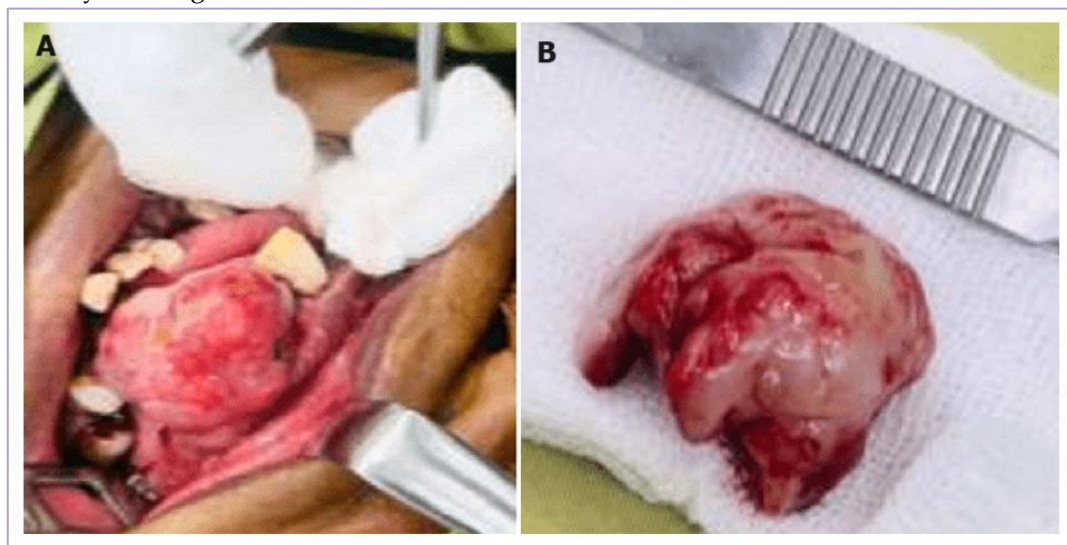


Figure 2. Tumor excision. (A) Before excision, and (B) After excision

3. Discussion

The term tumor indicates an enlargement or swelling due to excessive growth of tissue pathology. When viewed from pathology, the term tumor is synonymous with neoplasm, which is a collection of abnormal cells that grow continuously, are not coordinated with the surrounding tissue and are useless for the body.⁴ Generally, the exact cause of oral cavity tumors cannot be known. Factors such as smoking and alcohol are suspected as the main causes. In addition, chewing betel and tobacco can also be a factor in the occurrence of this tumor⁵.

It is important to know the duration of contact with carcinogenic substances in the area and the amount of contact with the mucous membranes of the oral cavity. Oral cavity tumors occur more often in the elderly. Ethnic factors also determine the occurrence of this tumor. Indian women who smoke tobacco have a higher incidence of malignant palate tumors. Alcohol as an irritant in theory causes continuous burning of the site and increases the permeability of the mucous membrane. This causes the absorption of carcinogenic substances contained in alcohol or tobacco by the oral mucous membranes. Oral hygiene and food habits also determine the occurrence of malignant tumors in the oral cavity⁵.

Several predisposing factors for the occurrence of oral cavity tumors include chronic irritation such as excessive use of mouthwash, irritation due to the use of dentures or overhanging tooth fillings, poor oral health, and so on. Continuous irritation will disrupt the circulation process and cause a reduction in oxygen supply to the mucosa, making it easier for tumors or carcinoma to occur. Diet also causes tumor predisposition, especially vitamin A and C deficiencies, deficiencies of iron, zinc, riboflavin and selenium can cause changes in the structure and function of the oral mucosal epithelium, making it susceptible to carcinogenic substances. Malnutrition will also reduce the body's resistance to carcinogens⁶.

Another predisposing factor is that excessive alcohol and tobacco consumption will cause local irritation of the oral mucosa and disrupt the body's immune response. Excessive alcohol consumption will cause deficiencies in iron, zinc, riboflavin and various other vitamins, causing a decrease in the resistance of the oral mucosa. Alcohol facilitates the absorption of carcinogenic substances such as tobacco through the oral mucosa. Smokers and alcohol drinkers have a 15 times greater risk of developing oral cavity cancer than smokers who do not drink alcohol. Smoking marijuana has been known to increase the likelihood of malignant oral tumors. The role of viruses in the incidence of oral cavity tumors has not been clearly proven. However, there was a significant increase in antibody titers against herpes simplex virus (HSV) in oral cavity cancer sufferers. Epstein Barr virus is found in more than 50% of cases of Burkitt's lymphoma and malignant lymphoma. Apart from that, papilloma virus/HPV types 1, 11, and 16 are also thought to cause malignant tumors in the oral cavity. Syphilis has long been suspected as a risk factor for oral cavity cancer. Syphilis sufferers have a 3 times greater risk of developing oral malignancies. Genetic factors are related to increased sensitivity of the body to mutagenic substances and carcinogenic substances which are associated with deficiencies in the ability to repair cell DNA damage. This situation is found in several disorders such as *xeroderma pigmentosum*, *fanconi anemia* and *ataxia telangiectasia*⁶.

Management of surgical procedures is one of the actions that can be carried out by paying attention to the following concepts:

1. *Pre-Operative* consisting of *preoperative phase* (preoperative phase) begins when the patient enters the patient reception room and ends when the patient is moved to the operating table for surgery.
2. *Intraoperative phase* (intra-operative phase) In this intra-operative phase, the operating team carries out Universal Precautions, the patient is positioned on the operating table, the doctor anesthetizes the patient, installs a breathing apparatus (*nasopharyngeal airway*) by the anesthetist and team, then perform asepsis and antisepsis on the patient's extra-oral and intra-oral areas, then inject adrenaline into the patient, perform an excisional biopsy on the soft tissue tumor, then the final stage provides control of bleeding in the incision wound by hectating the tissue.
3. *Post operative phase* (post-operative phase), in this phase the post-operative phase begins with the patient entering the recovery room and ends with a follow-up evaluation in a clinic setting or surgical treatment room or at home. The aim of post-operative care is to monitor the patient's progress during the recovery period, prevent and immediately treat complications

that occur and assess the patient's awareness and vital bodily functions to determine when to transfer/discharge the patient (in accordance with the "Aldrette assessment")^{7,8}.

4. Conclusion

A squamous odontogenic tumor is a locally occurring, slow-growing mass that does not invade surrounding tissues or metastasize, but can grow significantly large within its localized area. In Indonesia, tumor prevalence increased from 1.4 per 1,000 population in 2013 to 1.79 per 1,000 population in 2018, with Lampung recording a prevalence of 1.40 per 1,000 population. Research also indicates that approximately 4 out of every 1,000 people are affected by tumors. The most common treatment involves soft tissue surgery under general anesthesia, where the entire tumor mass is excised with a margin of 2 to 3 mm from the lesion's edge, followed by suturing to control post-operative bleeding. Patients typically undergo post-operative follow-up on the 7th day for suture removal and to ensure proper healing.

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Authors Contribution

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|------------------------------------|---------|--------|------------|------------|
| Concepts or ideas | √ | | | |
| Design | √ | √ | √ | √ |
| Definition of intellectual content | √ | √ | √ | √ |
| Literature search | √ | √ | √ | |
| Experimental studies | | | | |
| Data acquisition | √ | √ | √ | √ |
| Data analysis | √ | √ | √ | √ |
| Statistical analysis | | | | |
| Manuscript preparation | √ | √ | √ | √ |
| Manuscript editing | √ | √ | √ | √ |
| Manuscript review | √ | √ | √ | √ |



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