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Case Report

Carcinoma of Anterior Two Third of the Tongue: A Case Report

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Abstract

Carcinoma of the tongue is the one of the most commonly occurring neoplasm among all intraoral malignant tumors, accounting for about 30% of all the oral malignancies. Because of a higher risk of nodal metastasis with tongue carcinoma, for patients undergoing a surgical resection of primary tumors, it is advised to perform elective supraomohyoid neck dissection. However, treatment of the N_0 neck is still debated. This paper reports a case of a squamous cell carcinoma located at the anterior two third of the tongue, treated by surgical excision of the primary site along with supraomohyoid neck dissection. Follow up of the patient supports that prophylactic neck dissection should be considered with the aim of improving regional control.

Keywords: Squamous Cell Carcinoma; Radical Neck Dissection; Lymph Node Metastasis; Surgical & Operative Procedures; Malignant Epithelial Neoplasms; Cancer Staging; Glossectomy.

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Introduction

Carcinoma of the tongue is one of the most commonly occurring neoplasms among all intraoral malignant tumors, accounting for about 30% of all the oral malignancies.[1] Constant irritation by jagged or irregular teeth and tobacco usage has been considered a very common etiology by many practitioners. Patients with squamous cell carcinoma (SCC) of the tongue and floor of mouth, who have clinically N_0 necks, have a risk for micro-metastases to the cervical lymph nodes. For such patients undergoing a surgical resection of primary tumors, it is advised to perform elective supraomohyoid neck dissection.[2] Squamous cell carcinoma of the tongue with clinically negative neck may have up to 50% incidence rate of having an occult cervical node metastases. However, treatment of the N_0 neck is still debated. Most surgeons perform elective neck dissection or neck irradiation in all N_0 cases to provide the best chance of cure, while others prefer a wait-and-watch policy treating the neck only when a metastatic node is detected clinically.[3] The various modalities for treatment of carcinoma of the tongue have been proposed in literature which include surgical excision, use of radium and high voltage x-ray therapy, however surgical excision with elective supraomohyoid neck dissection is believed to have reported with low chances of recurrence post operatively.[4,5] This paper reports a case of a squamous cell carcinoma located at the anterior two third of the tongue and its management.

Case Report

A 55 year old female patient reported to the hospital with the complaint of a proliferative growth on the anterior two third of the tongue about 1 cm from the midline to the right side of the anterior two third of her tongue (Fig 1). On clinical examination a raised firm lump, 1 x1 cm in dimension was found, which was attached to the underlying muscle. The growth was well defined in nature and the rest of the tongue was apparently normal and freely mobile. The floor of the mouth and the pharynx were also apparently normal. The patient's maxillary incisors had a sharp tooth edge adjacent to the lesion. The submental, submandibular or supraclavicular lymph nodes were not palpable. The patient also gave a history of tobacco chewing since 10 years. There was no family history of malignancy. After obtaining the results of blood investigations with no abnormality and a fitness for surgery a written consent was taken from the patient.

Since the lesion was small and well localized, the treatment planned was a V-shaped excision of the anterior two third of the tongue under general anesthesia (Fig 2). The excision extended 1.5 cm beyond the suspicious tissue. Along with it a supraomohyoid neck dissection as a preventive measure against micro metastasis was performed. While performing the neck dissection, bilateral submental lymph nodes were removed and right side level 2 nodes was removed (Fig 3). A primary closure was done for the anterior tongue (Fig 4). Hemostasis was achieved

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and the specimen was sent for histopathological examination which revealed dysplastic epithelium and the presence of keratin pearls under 40 X magnification (Fig 5 & 6), and a well differentiated squamous cell carcinoma (infiltrating the adjacent muscle) was reported. The patient was followed up for two years with no recurrence.

Figure 1: The ulceroproliferative lesion at the anterior 2/3rd of the tongue

Figure 2: The v-shaped excision of the anterior third of the tongue with the lesion.

Figure 3: The supraomohyoid neck dissection for removal of level 2 nodes.

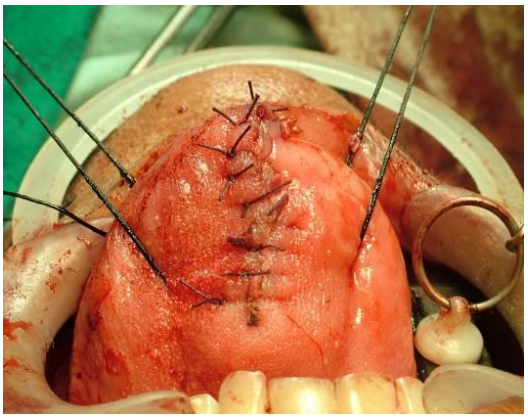

Figure 4: The primary closure of the anterior 2/3rd of tongue.

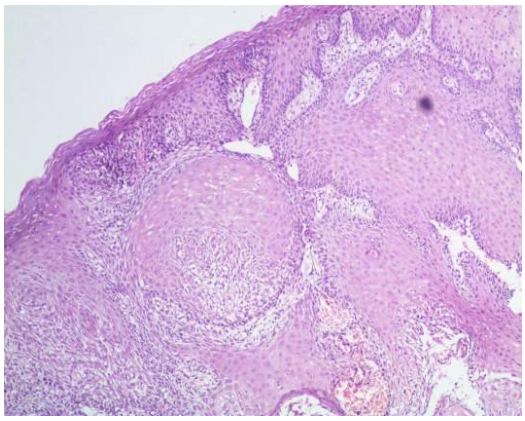

Figure 5: The H & E Stained photomicrograph shows proliferating epithelium invading into the connective tissue.

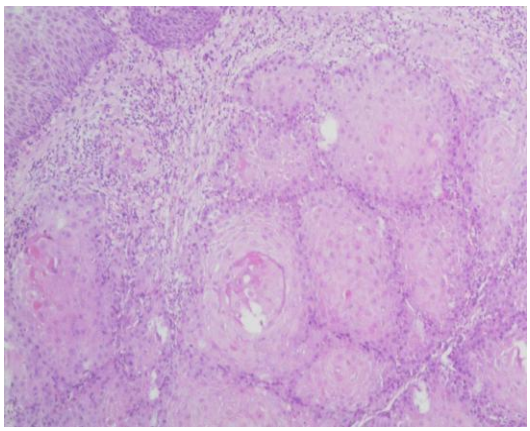

Figure 6: The photomicrograph under high power view shows the presence of keratin pearls with in the stroma.

Discussion

Cancer of the tongue constitutes about 3% of all cancer.[6] Tobacco use is one of the predominant factors for a large group of

patients reporting with tongue cancer. The chances of developing oral cancer increase with the dose and duration of tobacco use.[7] Another common etiology is dental trauma due to presence of a sharp tooth edge.[8] In a study it was reported that 44% of patients with tongue cancer had a site of persistent mechanical irritation by sharp teeth or dentures.[8] Cancer of the tongue is most commonly of epithelial origin and may result from chronic irritation. Metastatic spread is by the lymphatic system and primarily involves the deep cervical chain of lymph nodes. The submaxillary and submental lymph nodes are the ones frequently involved. The rich lymphatic drainage and the extreme mobility of the tongue are probable factors in accelerating the dissemination of tumor cells.

Although irradiation is preferred for large tumors, surgical treatment is preferred if the tumor is small, well localized and located in the anterior border of the tongue. With early stage carcinoma of the oral tongue, partial glossectomy is adequate treatment in most cases.[9] Martin and coworkers do not favor neck dissection for occult metastatic lesions from the tongue however prophylactic dissection, used on an individua1 basis, considering site of the lesion, is of value.[10] The yield of metastatically involved cervical nodes in clinically uninvolved necks was 15% as stated in a study.[11] Surgery is an effective modality for the stage I and II carcinomas of the oral cavity. Local tumor resection in conjunction with functional neck dissection is recommended for patients with a high-risk of nodal metastasis especially in cancer of the tongue. Radiotherapy is reserved for patients who are medically unsuitable for, or who refuse surgery.[12] In a study by Michael et al, total of 54 patients with stage I and stage II squamous cell carcinoma of the oral cavity were reviewed as to treatment modality, adequacy of treatment and site of failure. Surgery was employed as the sole initial treatment modality in 52 patients. Forty-three underwent primary tumor excision alone and 9 underwent elective neck dissection at the time of primary tumor excision. A low incidence of local recurrence (2%) and a high incidence of neck recurrence (42%) were documented in those patients treated by primary tumor excision alone.[13]

A higher risk of contralateral metastasis in patients with tumors of the floor of the mouth and the anterior third of the tongue compared to the retromolar region has been reported. In relation to tongue carcinomas, the importance of primary tumor invasion across the midline has already been exposed by Martin et al, 16% of the tumors crossing the midline by less than 1 cm developed contralateral lymph node relapse. This value increases to 46% in cases that invade over the midline by more than 1 cm due to the involvement of contralateral lymphatic drainage.[14] Kowalski et al, showed that clinical staging, tumor crossing the midline and floor of the mouth involvement were the most important predictors of contralateral metastasis.[11] Clinical and radiological assessment of the primary tumor and areas of lymphatic drainage often understage disease in comparison with pathological assessment. Tumor control depends on the extent and location of primary tumors as well as the status of the neck lymph nodes which is the most important prognostic factor.

Conclusion

Constant irritation by jagged or irregular teeth and tobacco usage has been considered a very likely initiating cause by numerous clinicians. A high incidence of cervical node involvement in patients with TX and T1 squamous cell carcinomas of the oral cavity treated by primary tumor excision alone is reported therefore a prophylactic neck dissection is recommended. Our patient was followed for 2 years and did not report recurrence and the tongue movements were normal and speech acceptable. Follow up of the patient supports that prophylactic neck dissection should be considered with the aim of improving regional control. Patients who undergo elective neck dissection have a demonstrably high survival rate.[2] These observations lend support to the call for elective neck dissection in patients with stage I and II oral cavity carcinoma but are not conclusive.

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