

Case Report

NECK MASS ONE YEAR AFTER HEMIGLOSSECTOMY DUE TO LINGUAL SQUAMOUS CELL CARCINOMA

**Mostafa Hosseini¹, *Hamidreza Alizadeh Otaghvar¹, Adnan Tizmaghz¹,
Pejva Soleimanzadeh¹ and Peyman Mikaili²**

¹*Surgical Department of Iran, University of Medical Science, Tehran, Iran*

²*Department of Pharmacology, Urmia University of Medical Sciences, Urmia, Iran*

*Author for Correspondence

ABSTRACT

Squamous cell carcinoma (SCC) represents more than 90% of all head and neck cancers (Ramirez-Amador *et al.*, 1995). The majority of cancers of the head and neck arise from the surface layers of the upper aerodigestive tract (UAT). 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 N0 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, Modified Radical Neck Dissection, Lymph Node Metastasis, Surgical and Operative Procedures*

INTRODUCTION

Squamous cell carcinoma (SCC) represents more than 90% of all head and neck cancers (Lim *et al.*, 2004). The majority of cancers of the head and neck arise from the surface layers of the upper aerodigestive tract (UAT). UAT cancers include;

1) Oral cavity cancers, which include tumors of the buccal mucosa, retromolar triangle, alveolus, hard palate, anterior two-thirds of tongue, floor of the mouth, and the mucosal surface of the lip (Lim *et al.*, 2004).

2) Cancers of the pharynx:

a) Cancers of the oropharynx, which include tumors of the base of tongue, tonsil and the under surface of the soft palate (Lim *et al.*, 2004).

b) Cancers of the hypopharynx (bottom part of the throat), which include tumors of the postcricoidarea; pyriform sinus and the posterior pharyngeal wall (Lim *et al.*, 2004).

c) Cancers of the nasopharynx (behind the nose).

3) Cancers of the larynx.

Other UAT sites include the salivary glands, nose, sinuses and middle ear, but these cancers are relatively rare. Cancer originating in the nerves and bone of the head and neck is even rarer (Liu *et al.*, 2009).

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 (Ogus *et al.*, 1978). Constant irritation by jagged or irregular teeth and tobacco usage has been considered a very common etiology by many practitioners. 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 N0 neck is still debated. The various modalities for treatment of carcinoma of the tongue have been proposed in literature which includes surgical excision, use of radiotherapy 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 (Ogus *et al.*, 1978; Moor *et al.*, 2010). This paper reports a case of a squamous cell carcinoma located at the anterior two third of the tongue

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which undergone tongue resection twice, not followed by radiotherapy in last year and now presented with neck mass.

CASES

A 24 year old male patient reported to the hospital with the complaint of a cervical mass about 1 cm from the midline to the left side of her neck (Figure 1). He gave a history of tongue resection twice, not followed by radiotherapy in last year. On clinical examination a raised firm lump, 10 x10 cm in dimension was found, which was attached to the underlying muscle. The mass was erythematous, warm, and tender, with bloody and pussy discharge. The tongue was apparently normal and freely mobile. The floor of the mouth and the pharynx were also apparently normal. The submental, submandibular or supraclavicular lymph nodes were not palpable in rest of the neck. The patient also gave a history of smoking for 1 year. There was no family history of malignancy. After obtaining the results of blood investigations with except moderate leukocytosis (WBC=17000) and chronic normochromic normocytic anemia (Hb=11.7) 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 an excision of the cervical mass with left side Modified Radical Neck Dissection (MRND) under general anesthesia (Figure 3). The excision extended 2 cm beyond the suspicious tissue (Figure 2). A secondary closure was done by fasciocutaneous deltopectoral flap and skin graft (Figure 3). Hemostasis was achieved and the specimen was sent for histopathological examination which revealed dysplastic epithelium and the presence of a poorly differentiated squamous cell carcinoma with perineuroal invasion and specimen deep margin involvement was reported. The patient was recommended for radiation after surgery.



Figure 1: The ulceroproliferative lesion at the left side of the neck

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Figure 2: The excision of the lesion with 2 cm beyond the suspicious tissue



Figure 3: The left side Modified Radical Neck Dissection (MRND) with secondary closure of the defect by fasciocutaneous deltopectoral flap and skin graft

DISCUSSION

Cancer of the tongue constitutes about 3% of all cancer (McQuarrie, 1986). As the median age at diagnosis of tongue cancer is 61 years and only 2% of patients are diagnosed before the age of 35 these are thus rare occurrences and warrants further attention. 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 (Lockhart *et al.*, 1998). Another common etiology is dental trauma due to presence of a sharp tooth edge (O'Brien *et al.*, 1986). 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

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(O'Brien *et al.*, 1986). 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 (Erich and KraghIyle, 1959). Martin and coworkers do not favor neck dissection for occult metastatic lesions from the tongue however prophylactic dissection, used on an individual basis, considering site of the lesion, is of value (Kowalski *et al.*, 1999). The yield of metastatically involved cervical nodes in clinically uninvolved necks was 15% as stated in a study (Shingaki *et al.*, 1995). 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 (Cunningham *et al.*, 1986). 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 (Gonzalez-Garcia *et al.*, 2007).

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 (tmc.gov.in, 2014). 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 (Shingaki *et al.*, 1995).

Clinical and radiological assessment of the primary tumor and areas of lymphatic drainage often under-stage 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 with or without further radiotherapy is recommended. (Criteria for elective neck dissection is: Depth of infiltration > 3-4mm, High grade tumor, and Expected poor follow up) (tmc.gov.in, 2014).

For our patient did not perform neck lymph node dissection but post-surgery radiation was recommended in first and second tongue surgery that he ignored. Obviously, Patients who undergo elective neck dissection or radiotherapy (RT) have a demonstrably high survival rate (Mendenhall *et al.*, 2003), but unfortunately for our patient didn't perform any of these two modality after previous both lingual surgeries.

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