

### A case report on the simultaneous occurrence of cancer in The Tongue and Breast

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#### Abstract

Squamous cell carcinoma (SCC) affecting the tongue commonly emerges along its lateral border, yet occurrences specifically on the dorsum, especially at the midline, are notably rare. This study delves into the incidence rates of SCC localized on the tongue, alongside an investigation into simultaneous lesions of the breast. 50-year-old female presented with an ulcerative growth on the left side of the tongue, accompanied by speech difficulty and chewing discomfort persisting for a month. Previous history included breast surgery five years prior, along with ongoing diabetes medication. No history of habits, trauma, or prior ulcer formation was reported. Clinical examination revealed a whitish-yellow, firm, ulcerative lesion extending on the left lateral tongue surface, measuring 7.2x3.1x2.5cm with an exophytic growth of 4.7x2.1cm. The lesion, extending to the dorsal tongue surface, displayed erythematous flooring interspersed with slough and pale mucosa. Limited tongue movement and palpable submandibular nodes were noted. Initial diagnostic findings indicated stage IV metastatic carcinoma of the tongue (T4aN2M1). pathology revealed severe epithelial dysplasia with an invasive pattern in the form of islands, demonstrating altered cellular features, pleomorphism, inflammatory infiltrate, vascularity, and areas of hemorrhage. Lymph nodal analysis showed metastatic deposits in one of three left level II B lymph nodes.

**Keywords:** Squamous cell carcinoma, synchronous, Tongue, Breast

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#### Introduction

Squamous cell carcinoma (SCC) affecting the tongue stands as a prevalent form of oral cancer, predominantly manifesting along the lateral border (1). However, SCC occurrences specifically on the dorsum of the tongue, particularly at the midline, are exceedingly rare (2). The lesions present on the dorsum often risk oversight or misinterpretation, potentially being mistaken for benign lesions or oral signs of systemic illness due to their infrequency (3). This study was conducted with the aim of delving into the incidence rates of SCC specifically localized on the tongue as well as the lesion of the breast which has been

examined simultaneous at the same time.

#### Case Description

A 50 years old female came to OPD with a complaint of ulcerative growth in the left side of the tongue associated with difficulty in speech and pain during chewing food since one month. She had underwent breast surgery 5 years back. The patient had a past medical history of diabetes and is under medication. The patient has no history of habits, trauma or formation of ulcer in the past.

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Intra oral examination revealed an ulcerative lesion extending antero-posteriorly on the left lateral surface of tongue which is indurated, intermittent pain during mastication and no bleeding. The growth was whitish yellow in colour, firm in consistency and clinically the extension of the ulcer is 7.2x3.1x2.5cm in length and exophytic growth measuring 4.7x2.1cm in width. It was everted growth with well demarcated margins extending to the dorsal surface of the tongue (Figure 1). Erythematous floor interspersed with slough and pale mucosa. The size and site of ulcer on palpation was non-tender and indurated. On removal of slough the tongue showed bleeding areas. Restricted tongue movement was observed. There was no loss in sensation of tongue. On palpation multiple submandibular nodes were palpable. Based on initial diagnostic findings it was (T4aN2M1) stage IV which was metastatic carcinoma of tongue. During examination the patient had lesion on left breast region one year back. Patient was well oriented and built with her vital signs in normal range. There was no history of icterus, pallor, edema or cyanosis.



**Figure 1: Ulcerative lesion on the left lateral surface of the tongue**



**Figure 2: Nodular white lesion in left side of the breast**

#### Macroscopic description

We have received a hemi-glossectomy along

with level I, II, V lymph nodes of left side measuring 4.7x2.1cm, tumour invasion of 1.2cm and 1cm of depth of invasion (Figure 2).

#### Microscopic description

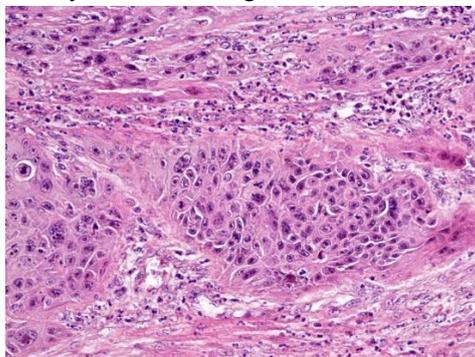
The received section showed para-keratinised stratified squamous epithelium of variable thickness showing features of severe epithelial dysplasia with break in continuity of the basement membrane. There is evidence of several areas of ulceration. The underlying dense connective tissue stroma shows malignant epithelial cells arranged in the form of islands showing altered nuclear cytoplasmic ratio, marked cellular and nuclear pleomorphism, few mitotic figures, hyperchromatic vesicular nucleus and prominent nucleoli. There is evidence of intense mixed inflammatory infiltrate predominantly neutrophils and lymphocytes along with multinucleated giant cells, intense vascularity and areas of haemorrhage. Skeletal muscle were also present.

Growth pattern of invasion front graded as WPOI-1. The tumour showed no lymphovascular and perineural invasion. All resected soft tissue, left submandibular salivary gland and sternocleidomastoid muscle are free of tumour.

Lymph nodal status revealed 1/3 left level II B lymph node, shows metastatic deposits. Size of largest metastatic deposit is 0.8cm and is seen in left level II B lymph node. No extra nodal invasion is noted. left level IA lymph node, Level I B Lymph nodes, Left level IIB lymph nodes, Left level V lymph node show reactive hyperplasia and free of tumour deposits. Histopathology findings were suggestive of Moderately differentiated Squamous cell carcinoma and Brynes et al 1992 scoring was given as 9/16. The AJCC staging of tumour was given as PT<sub>3</sub>N<sub>1</sub>. Lab reports says random blood sugar level is 227mg/dl

Incisional biopsy report was given as moderately differentiated squamous cell carcinoma. Wider excision was carried out were the histopathological findings showed

islands and nests of tumour cells with a cohesive broad bulbous islands of cells as a invasive front there was no perineural or lymphovascular invasion. Glossectomy of the left lateral surface of tongue and left mastectomy was done (Figure 3).



**Figure 3:** Islands and nests of tumour cells with a cohesive broad bulbous islands of cells

### Discussion

Tongue cancers predominantly manifest along the lateral border, rendering dorsal cancer remarkably uncommon, with an incidence ranging from 2.9% to 5.0%. SCC occurrences along the dorsal midline are even scarcer, accounting for less than 1% of all tongue carcinomas (4). Within our study encompassing 368 patients with tongue cancer, only 3 exhibited SCC specifically on the dorsum, resulting in an incidence rate of 0.8%. As per available English language literature, a total of 17 well-documented cases of SCC affecting the tongue dorsum, including our 3 cases, have been reported (5).

Among these 17 cases, the gender ratio was approximately 1:1.43 (7 men and 10 women), and the average age was 60.8 years (ranging from 35 to 80 years). Seven patients had a history of smoking, while 10 were non-smokers. Lesions primarily emerged from the tongue midline in 7 patients, the right side in 3, the left side in 2, and were not specified in 5 cases. Typically, SCC of the tongue dorsum presents as a solitary lesion; however, Pastore et al. documented a rare case involving a patient with 3 lesions (6).

Early-stage tongue cancer typically undergoes

treatment through surgery (partial glossectomy) or radiotherapy (brachytherapy). Advanced cases necessitate wide excision and reconstructive surgery. In cases of locally advanced tongue cancer, preserving the larynx during total glossectomy may maintain long-term swallowing function and safeguard the airway, differing from concurrent total laryngectomy (7).

According to Dziegielewski et al. 24% of patients utilized a gastrostomy tube a year post-surgery (8). Rihani et al. reported outcomes from total glossectomy with laryngeal preservation and reconstruction: 84.1% and 28.7% for tracheostomy decannulation and gastrostomy tube removal, respectively, at one year post-surgery. Rates differed based on treatment approaches, with primary surgery and postoperative radiation showing higher rates compared to primary radiation and salvage surgery (9).

Despite the effectiveness of surgical intervention, postoperative tongue function may suffer, especially in cases of advanced SCC involving the dorsum. Our study observed favorable outcomes in two out of three patients with advanced SCC of the tongue dorsum who underwent superselective intra-arterial chemoradiotherapy, preserving oral function. However, in one case, a poor response necessitated salvage surgery, resulting in unfortunate outcomes. Treatment selection, significantly impacts postoperative outcomes in advanced tongue cancer cases. Careful consideration of individual patient needs is crucial in determining the most suitable treatment approach (10).

### Conclusion

This case report explains the cancer development in two different sites of both the lateral surface of the tongue along with swelling on left breast which was expected due to metastasis but was diagnosed as synchronous tumour which arises from two different sites at the same time.

Conflict of Interest: Nil

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