




## CASUISTIC PAPER

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# Difficulties in diagnosis of carcinoma of the tongue

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### ABSTRACT

**Introduction.** Oral cancer is the second most common malignancy and there is an epidemic alert by WHO for oral cancers projected for 2030. The tongue remains the most common intraoral site for oral cancer worldwide.

**Aim.** To present a case report.

**Description of the case.** A 56-year-old patient was suffering from carcinoma of the tongue. He developed metastases in the lungs and upper part of the vertebral column. The PET scan report revealed the presence of hypermetabolic cells in the metastatic tissue. The biopsy of the lesion on the upper part of the back did not show neoplastic cells, epithelioid cells and giant cells. Radiotherapy was given for 25 cycles. Both the lungs were affected by metastases. Lastly the patient expired due to cardio-respiratory failure.

**Conclusion.** Tobacco is the most important known risk factor for the development of tongue cancer. The tumors in their early stage with complete excisional treatment have good prognosis. There is usually a history of long standing leukoplakia or erythroplakia. Ideally, imaging should take place prior to biopsy. Surgical procedures such as hemiglossectomy can cause functional defects in speech and swallowing. Difficulty in diagnosis results in inappropriate treatment.

**Keywords.** hemiglossectomy, leukoplakia, PET-CT scan, radiotherapy

### Introduction

Oral cancer is the second most common malignancy and there is an epidemic alert by WHO for oral cancers projected for 2030.<sup>1</sup> The tongue remains the most common intraoral site for oral cancer worldwide.<sup>2</sup> In contrast to other sites of oral cancer, the incidence of the tongue carcinoma is increasing in the younger age group.<sup>3</sup> Speech, swallowing and breathing are associated with the integrity of the reconstructed tongue muscles after surgical resection.<sup>4</sup>

### Description of the case

The patient was a smoker and tobacco chewer for 20 years. He developed leukoplakia and subsequently erythroplakia. The oral mucosa and the right side of the tongue became indurated and red. He felt difficulty in eating, swallowing food, and in speaking normally. Burning sensation was felt while taking spicy food. The affected portion of the tongue gradually became more indurated and red. Mastication became difficult. The patient did not agree for biopsy of the lesion in spite of repeated advice by the oncologist. He adopted oth-

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er systems of therapy for a long period. Ultimately, the growth increased in size and metastasized. Biopsy was done in very late stage. It was finally diagnosed as squamous cell carcinoma (SCC), moderately differentiated type (Fig. 1).

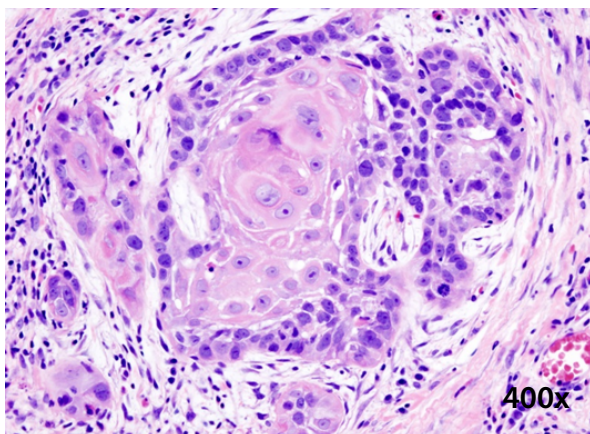
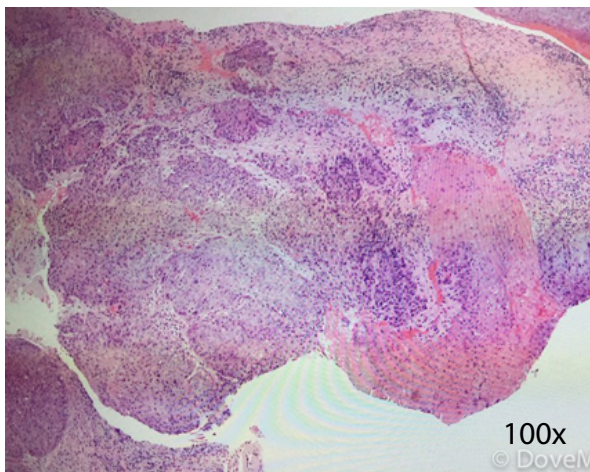


Fig. 1. Infiltrative squamous cell carcinoma of tongue

The patient was admitted to a reputed cancer hospital for treatment. After completing the required investigations, hemiglossectomy was done along with reconstructive surgery. But PET-CT scan was not done before surgery to obtain information regarding metabolic changes in other organs of the body. The surgical wound healed gradually. The patient was discharged. Radiotherapy was instituted for 25 cycles. During this period, the patient had copious expectoration of thick phlegm. Sputum culture was sterile. Malignant cells were not found. The patient suffered severe pain which did not respond to injectable analgesics and opium tablets. Kyphosis developed. The patient was again readmitted in the same hospital for checkup. PET-CT scan was done. The report revealed hypermetabolic cells in right paravertebral soft tissue mass with infiltration of D9-D10 vertebrae; metastatic intraspinal extension at D8, D9-10 level with fracture of right 9th rib (Fig. 2). Hypermetabolic metastatic

right pleural based soft tissue deposit eroding right 6<sup>th</sup> rib was noticed. Biopsy was repeated. It was suggestive of reparative myofibroblastic proliferation. The report did not show neoplastic cells. A group of doctors decided on detecting *Mycobacterium tuberculosis* from the tissue. It came out as negative. The patient fell down in the bathroom and developed paraplegia. Therefore, the hospital discharged the patient for palliative treatment. Expectoration of phlegm, pain and fever continued. Again he was admitted, this time in another hospital. The mass on the back of upper chest was operated to release compression on the nerves and to confirm malignancy by repeating biopsy. No neoplastic cell was detected. The result of the tuberculosis tests (PCR/sputum-*AFB*) was negative. No improvement was noticed as regards paralysis of legs. Bowel and bladder reflex was lost. Indwelling catheter was inserted in the urethra for urination and repeated enema was given for fecal evacuation. The patient was discharged. His condition did not improve. Fever and pain increased. Respiratory distress developed. He was again admitted in the ICU in emergency and expired due to cardio-respiratory failure.



Fig. 2. Lungs and Intraspinal Metastasis

## Discussion

The repeated exposure of the mucosa of the upper aerodigestive tract to the carcinogenic effects of tobacco, alcohol, or both is the cause of carcinoma of tongue. The multiple primary and secondary tumors in this “condemned mucosa,” are a phenomenon described as “field cancerization”.<sup>5</sup>

It is highly probable that healed tuberculous granulomas that are culture and *AFB* negative for *M. tuberculosis* will sometimes be positive for its DNA.<sup>6</sup> Thus, when *M. tuberculosis* DNA is found in tissue specimens, all other laboratory and clinical data must be analyzed before a final diagnosis is made.<sup>7</sup> The PCR test for *M. tuberculosis* will increase diagnostic accuracy resulting in improved and timely care for patients.<sup>8</sup>

The various treatment options for the carcinoma of tongue include surgery, radiotherapy, chemotherapy and combined modalities.<sup>9</sup>

Combined positron emission tomography (PET-CT) scans may add accuracy in evaluating the extent of the primary tumor. It may aid in target delineation if definitive radiation therapy (RT) is being considered.<sup>10</sup> PET scanning may help to identify pathologically involved lymph nodes. Integrated PET-CT has greatly replaced other tests for detection of distant metastases.<sup>11</sup>

Improved imaging techniques, including functional or molecular-based studies prior to surgery, may eventually prove useful in selecting patients for neck dissection. Sentinel lymph node biopsy is an emerging technique that may help neck dissection in patients with intermediate-thickness tumors.<sup>12,13</sup>

An en bloc partial glossectomy with negative margins can preserve speech and swallowing for most stage I and II lesions of the tongue. The choice of reconstruction and the intensity of rehabilitation shall determine the ultimate functional outcome.<sup>14</sup> Excellent overall survival and swallowing have been reported using TLM (Trans oral laser microsurgery) as the primary treatment for advanced stage tongue cancer.<sup>15</sup>

## Conclusion

Tobacco (smoked and smokeless) is the most important known risk factor for the development of tongue cancer. The tumors in their early stage with complete excisional treatment have good prognosis. There is usually a history of long standing leukoplakia or erythroplakia. Ideally, imaging should take place prior to biopsy. Surgical procedure such as hemiglossectomy can cause functional defects in speech and swallowing. Difficulty in diagnosis results in inappropriate treatment.

## Learning points

- Carcinoma of tongue mostly occurs due to continuous use of tobacco in the form of chewing, snuff or smoking.
- Early diagnosis and treatment prolongs the life span of the patient.
- Successful microsurgery followed by radiotherapy raises the hope of survival.
- Improper and delayed diagnosis leads to metastases and serious complications, resulting in painful death.

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