

**SQUAMOUS CELL CARCINOMA OF TONGUE IN YOUNG ADULT MAN: A RARE CASE REPORT****Dr. V. Bhavya<sup>1\*</sup>, A. Hema Latha<sup>1</sup>, K. Udaya Lakshmi,<sup>1</sup> G. Divya<sup>2</sup> and Dr. D. Ranganayakulu<sup>3</sup>**<sup>1</sup>Pharm D VI Year Department of Pharmacy Practice, Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupati-517503, Andhra Pradesh, India.<sup>2</sup>Assistant Professor Department of Pharmacy Practice, Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupati-517503, Andhra Pradesh, India.<sup>3</sup>Principal Department of Pharmacy Practice, Sri Padmavathi School of Pharmacy, Tiruchanoor, Tirupati-517503, Andhra Pradesh, India.**\*Corresponding Author: Dr. V. Bhavya**

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**ABSTRACT**

Cancers of the oral cavity are a major public health problem in India. Oral cancer is one of the commonest cancers among males in India. The incidence of tongue cancer increased from 1973 to 2000 worldwide. Only 2% of patients are diagnosed before the age of 35. The most frequent histological type is Squamous cell carcinoma (SCC) which mainly affects men in the sixth decade of life. The current article describes the case of 32 year old male who was diagnosed with SCC of tongue. The symptoms like crusted ulcers on tongue, redness of tongue, swelling was present and it can be diagnosed by performing tissue biopsy and surgery was performed. Oral cancer is a preventable disease, where smoking and alcohol are considered as major risk factors having them both a synergic effect. It further highlights various etiologic and risk factors, treatments and prevention programs that are needed to prevent the progression of disease.

**KEYWORDS:** Squamous cell carcinoma, Oral cancer, Incidence.**INTRODUCTION**

Oral cancer is one of the 10 most common cancers in the world, with a delayed clinical detection, poor prognosis, without specific biomarkers for the disease and expensive therapeutic alternatives.<sup>[4]</sup> Head and neck cancer is the fifth most prevalent cancer worldwide. In spite of developments in diagnosis and treatment of this cancer, the long-term survival of patients has not been better over the past four decades.<sup>[2]</sup> The tongue is the most common site for an oral cavity malignancy. Tongue cancer represented 6.3% of all male cancers and 3.7% of all female cancer cases in the Regional Cancer Centre (RCC), Trivandrum, and South India. This constituted about 36.5% of all oral malignancies. Peak incidence is seen in the sixth decade for men and in the seventh decade for women. In India, the high prevalence of this cancer is attributed to the well-known habit of tobacco chewing, smoking, and alcoholism.<sup>[6]</sup>

Squamous cell carcinoma (SCC) of the oral tongue is rare in young adults.<sup>[6]</sup> Even though tobacco and alcohol abuse is said to be the main etiological factor, it is reported only for a small percentage of patients in some series.<sup>[1]</sup> The lack of fundamental habits in young patients have provoked many to postulate other factors

like immune deficiency, genetic factors, and dietary factors in the etiology of these cancer. Viruses like herpes simplex virus and human papilloma virus have also been reported as causative factors. In the few reported series on tongue cancer in young patients, the general trend noted was the aggressive course and poor prognosis.<sup>[6]</sup>

**CASE REPORT**

A 32year-old male patient came to the hospital with chief complaints of crusted ulcers on tongue. Illness started as swelling in lateral boarder of tongue in left side since 10 days, difficulty in swallowing due to swelling, jaw pain, redness of tongue, swelling of left side of neck and fever. For last 1 month he observed scar in the left side of tongue in lateral boarder of tongue.

He has been smoking for 14 years 4 cigarettes per day and he drinks alcohol at evening times. He has a habit of chewing tobacco, and placing tobacco at base of tongue for past 12 years. Weight loss was noted due to loss of appetite and difficulty in swallowing.

On the day of admission he was conscious and coherent. Vitals are normal and Lymph node was palpable in his

neck on left side. On intra oral examination of tongue revealed that presence of tumor on left lateral side and tissue biopsy under a microscope shows metastatic deposits of Squamous cells present on left side of tongue and CT scan shows lymph node attack on left side of neck and histopathological grading was T2N1M0G3 where tumor size > 2 cm, one lymph node attack on left side of neck, with no distant metastasis and poorly differentiated cells (high grade) were present.

Laboratory data include hemoglobin 12.1gm/dl, bleeding time 1'40", clotting time 3'45", random blood sugar 101mg/dl, and blood urea nitrogen 29mg/dl, serum creatinine 0.9mg/dl. Serum electrolytes includes sodium 142mmol/l, potassium 4.2mmol/l and chloride 98mmol/l.

From the above examinations, the patient was diagnosed as stage III SQUAMOUS CELL CARCINOMA OF TONGUE and at the time of admission the treatment includes T. Cefixime 200MG BD, T. Pantoprazole 40MG BD, T. B Complex OD, T. Paracetamol 500MG TID. On day 3 patient was posted for surgery Primary Tumor Resection.

Post-operative treatment on day 1 was NBM up to 6 pm, IVF 2 bottles DNS and 1 bottle RL, mouth wash with salt water, soft diet allowed after 4:00 pm with ice cream, Inj. Tramadol 2CC slow IV BD, Inj. Pantoprazole 40 MG IV BD, Inj. Ceftriaxone 1GM IV BD and post-operative treatment on day 2 was soft diet, Inj. Ceftriaxone 1GM IV BD, Inj. Pantoprazole 40MG IV BD, Inj. Tramadol 2CC IV BD, T. B Complex, Cap. A & D OD, T. Vitamin C OD and Mouth wash with salt water 2times/day were continued until discharge. And the patient was discharged after 14 days.

## DISCUSSION

Oral cancer is two to three times more prevalent in men than women in most ethnic groups According to the latest reports of the International Agency for Research on Cancer (IARC) for oral cancer which includes lips, tongue, gingiva, mouth floor, parotid and salivary glands. The annual incidence is higher around the world, which is over 300,000 diagnosed cases, and the annual mortality is about 145,000 deaths.<sup>[4]</sup> Squamous cell carcinoma (SCC) of the tongue is the most frequent intra oral head and neck cancer. The median age at the diagnosis of the tongue cancer is 61 years. Approximately 2% of patients are diagnosed before the age of 35 and another 7% before the age of 45, this despite the fact that there is an increasing trend in the prevalence of tongue SCC and these are thus rare occurrences and warrants further attention.

Oral cancer is a preventable disease, where smoking and alcohol-considered major risk factors-are present in 90% of cases, having them both a synergic effect. In 2007 the IARC concluded that "there is quite evidence to establish that snuff smoke is carcinogenic, and for example, it causes cancer of the oral cavity and pancreas". The risk

for developing oral cancer is 3 times higher in smokers compared with nonsmokers. An environment with cigarette smoke is also risky; the risk for oral cancer is 87% higher in those who never smoked, but were exposed to an environment with cigarette smoke (involuntary smoking/passive smoking) compared with those who never smoked and not have been exposed. Cigarette smoke weakens immunity in the oral cavity by promoting gingivitis, periodontitis and oral cancer.<sup>[4]</sup>

Chewing of Betel quid and Areca nut causes 8-15 times increasing risk of oral cancer by producing Reactive Oxygen Species (ROS) which initiates tumor by genotoxicity and gene mutation through attacking salivary proteins and oral mucosa.<sup>[5]</sup>

Alcohol (ethanol) can act as a both locally and systemically risk factor: increased permeability of oral mucosa, dissolving lipids components of the epithelium, causing epithelial atrophy and interference in DNA synthesis and repair; it also has genotoxicity and mutagenic effects, causing decreased salivary flow, affects the liver's ability to deal with toxic or potentially carcinogenic compounds, and their chronic use is associated with an impairment of innate and acquired immunity, resulting in increased susceptibility to infections and neoplasm.<sup>[4]</sup>

Among other risk factors, there is the human papillomavirus mainly associated with carcinoma of the oropharynx. The most-common sites of HPV-related head and neck Squamous cell carcinoma (HNSCC) are the tonsils and base of tongue within the oropharynx, with a prevalence rate of 75%. HPV-related HNSCC is rare in nonoropharyngeal sites. Evidence shows that HPV contributes to carcinogenesis by two virus-encoded proteins: E6 protein promotes the degradation of p53 tumor suppressor gene product; E7 that promotes the degradation of the tumor suppressor gene product pRb (retinoblastoma protein), causing a deregulation of the cell cycle control, which also leads to an over, expression of the inhibitor of cyclin dependent kinase p16Ink4a.<sup>[4]</sup>

The International Classification of Tumors of the WHO ranks well differentiated tumors, moderately differentiated and poorly or undifferentiated. The TNM staging system (tumor-lymph node-metastasis) is based on the best estimate of the extent of disease before treatment. Information obtained from clinical examination and imagings are used to assign a clinical stage (cTNM). If the patient undergoes through surgical resection, its pathologic stage (pTNM) derived from tumor histopathology and/or regional lymph nodes.<sup>[4]</sup>

Among the approaches to the treatment of OSCC such as surgery, radiation therapy (external beam radiotherapy and/or brachytherapy), and coadjuvant therapy (chemotherapy with agents such as cisplatin, carboplatin, 5-fluorouracil, paclitaxel and docetaxel). Theoretically, chemotherapy before operation and radiotherapy might

be recommended because of the intact tumour vasculature which allows the drugs to be released into the tumour more efficiently.<sup>[2]</sup>

Based on the literature, the systemic induction (or preoperative neoadjuvant) chemotherapy aims to reduce the tumour size, surgical risk, the possibility of local relapse and distant metastases and improve respectability of tumour. Indeed, this kind of treatment increases the possibility of organ preservation.<sup>[2]</sup> In a recent meta-analysis of 14 randomized clinical trials, the authors state that chemotherapy before local therapy (surgery or radiotherapy) was associated with an 8% reduction in distant recurrence.<sup>[2]</sup>

Several studies have compared the old chemotherapy protocol of Cisplatin and 5-FU (PF) with TPF regimen containing Taxane (Docetaxel). Based on their results therapeutic response and overall survival was higher in Taxane-based regimen.<sup>[2]</sup>

The standard treatment of oral cavity tumours in stage III and IV is still surgery. However, in the case of advanced tumours that require complete resection of the tongue or pharynx, organ preservation treatments such as initial chemotherapy and/or chemo-radiation therapy can be considered primarily. On the other hand, 30-40% of patients with lymph node involvements in stages II or III will develop distant metastases sooner or later. So the way to prevent the growth of micro-metastases is actually chemotherapy. The third reason for initial chemotherapy is that the new TPF chemotherapy regimen is now available with minimal side effects and quick elimination of local symptoms and eating problems.<sup>[2]</sup> PORT should be considered in early oral tongue cancer patients with high-risk pathologic features.<sup>[3]</sup>

Follow up includes, Every two to three months for first 2 years; Three to four months for the 3rd year; Six monthly for next 2 years; Annually thereafter and on every follow up thorough head and neck examination for loco-regional control, second primary tumour and late sequelae of treatment. Investigation only if indicated by symptoms and positive clinical findings followed by Chest X-Ray, Serum T3, T4, TSH annually if neck is irradiated.<sup>[5]</sup>

## CONCLUSION

In our case, the patient presented with the tumor on left side of tongue and neck. This condition suggests the oral cancers particularly tongue cancer is more in males due to the habits of chewing Tobacco/Betal nuts, smoking, alcohol consuming and poor oral hygiene. Therefore, for the patient with mentioned condition should proceed for surgery. As surgery is curative and life expectancy is similar to the general population. In our patient surgery was performed and he was discharged. And patient was recommended to radiation and adjuvant therapy. The patient was not willing to take radiation therapy due to poor economic status. The prognosis for patients with

OSCC still remains poor. Early diagnosis and treatment remains to be the key to improving survival of patients. The main intention of our work is to bring awareness among public and health care professionals about disease and its complications.

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