



A Hospital-based Retrospective study of oral cancers in Itanagar capital region- Arunachal Pradesh (2018-2022)

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Abstract

Oral cancer is the second most common disease affecting Indian population and prevention of oral cancer is now a top health concern worldwide. The aim of this study is to analyse the epidemiological and clinical profile of oral cancer patients treated in Tertiary Care Centre, Tomo Riba institute of Health and Medical science Hospital, Naharlagun from 2018-2022.

Keywords: oral cancers, epidemiological, clinical

Introduction

Oral cancer is one of the 10 most common cancers in the world and it ranks among the top three cancers in India. Oral cancer affects 20 people out of every 100,000 people in India, making up around 30% of all cancer cases. Over 5 people in India die every hour every day because of oral cancer. Squamous cell carcinoma (SCC) is the most common malignant neoplasm of the oral cavity and represents about 90% of all oral malignancies. Oral cancer (i.e., stage III and IV) is an important cause of morbidity and mortality worldwide with an incidence rate that shows marked geographic differences in occurrence. The primary anatomic sites of Oral cancer are the tongue, buccal mucosa, floor of the mouth, alveolus, palate, lower lip, upper lip and other sites in the mouth with predominant male predilection.

Potentially malignant lesions or normal epithelial linings commonly cause oral cancer. Potentially malignant disorders (PMDs) such as inflammatory oral submucosa, fibrosis, erythroplakia, leukoplakia, candidal leukoplakia, dyskeratosis congenital, and lichen planus are indicators of the preclinical phase of oral cancer. Tobacco consumption including smokeless tobacco, betel-quid (tamul, paan) chewing, excessive alcohol consumption, poor oral hygiene, nutrient-deficient diet, and sustained viral infections, i.e. human papillomavirus (HPV) are some of the high risks associated with the development of oral cancer. Lack of awareness, exposure to extreme environmental conditions, and behavioural risk factors are indicators of a wide variation in the global incidence. Periodontal illnesses are also soaring consideration for oral malignancy, and it has a higher incidence among the Indian population. Inflammation plays a prime role in tumorigenesis and inflammation produced by viral and bacterial infections, also inflammatory bowel diseases may cause malignancy. Cancer development may also be influenced by socio-ecological and behavioural factors like smoking, silica, asbestos, and other carcinogens. The main cause of oral cancer, particularly in developing countries, is tobacco usage (in any form). Chewing paan, which combines piper betel leaves with areca nut, lime, catechu, cinnamon, and other ingredients, is a major cause of oral cancer, especially in the north-eastern regions of India, that contributes the highest incidence. The continued usage of chewing paan causes prolonged exposure of oral mucosa along with abrasion of epithelium linings.

The studies on oral cancer have been reported from different parts of India, however for Arunachal Pradesh we found only one study on searching the literature with survey revealing low awareness about oral cancer, thus there was an urgent need to check the scale of oral cancers at present in Arunachal Pradesh. So the aim of the present study was to evaluate the epidemiological and clinical profile of oral cancer patients treated in Tomo Riba State Hospital Tertiary Care Center (TCC), Naharlagun from 2018-2022.

Methods

A retrospective study of oral cancer patients was carried out for the years 2018-2022 at Tertiary Care Centre, TRIHMS, Naharlagun. Data was extracted from TCC, TRIHMS patient file records. Age, gender, address, history of tobacco and alcohol abuse, symptoms at the time of presentation, histology and staging of disease at the time of diagnosis were evaluated.

The anatomical sites reviewed in this study included lip, upper and lower alveolus, buccal mucosa, hard palate, tongue, floor of the mouth and lymph nodes. Patients were divided into two groups i.e male and female respectively with no specific age group. The tumors were histopathologically graded by cell differentiation into

well differentiated, moderately differentiated and poorly differentiated categories and types of malignancy as per the World Health Organization criteria.

A total of 155 oral cancer patients records were found, but due to lack of complete record for 20 patients, only 135 subjects were considered for the study. The results of the present study were subjected to statistical analysis to interpret the differences and the significance among groups.

Results

Out of the total 135 oral cancer patients, 90 were male whereas 45 reported were female.

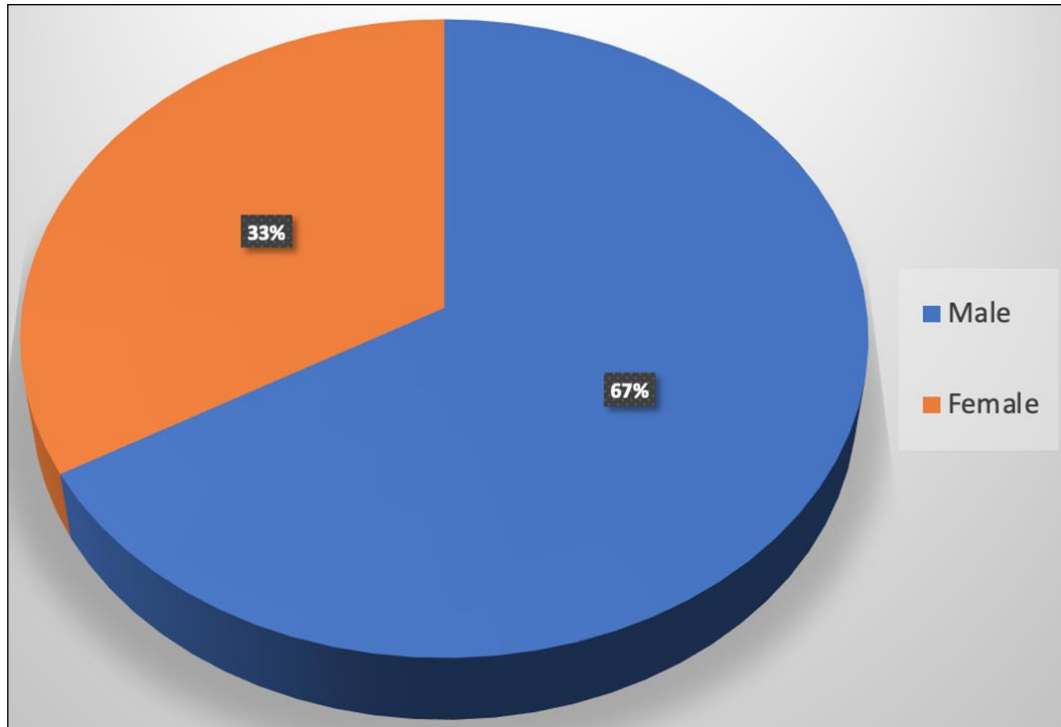


Fig.1. sex predilection.

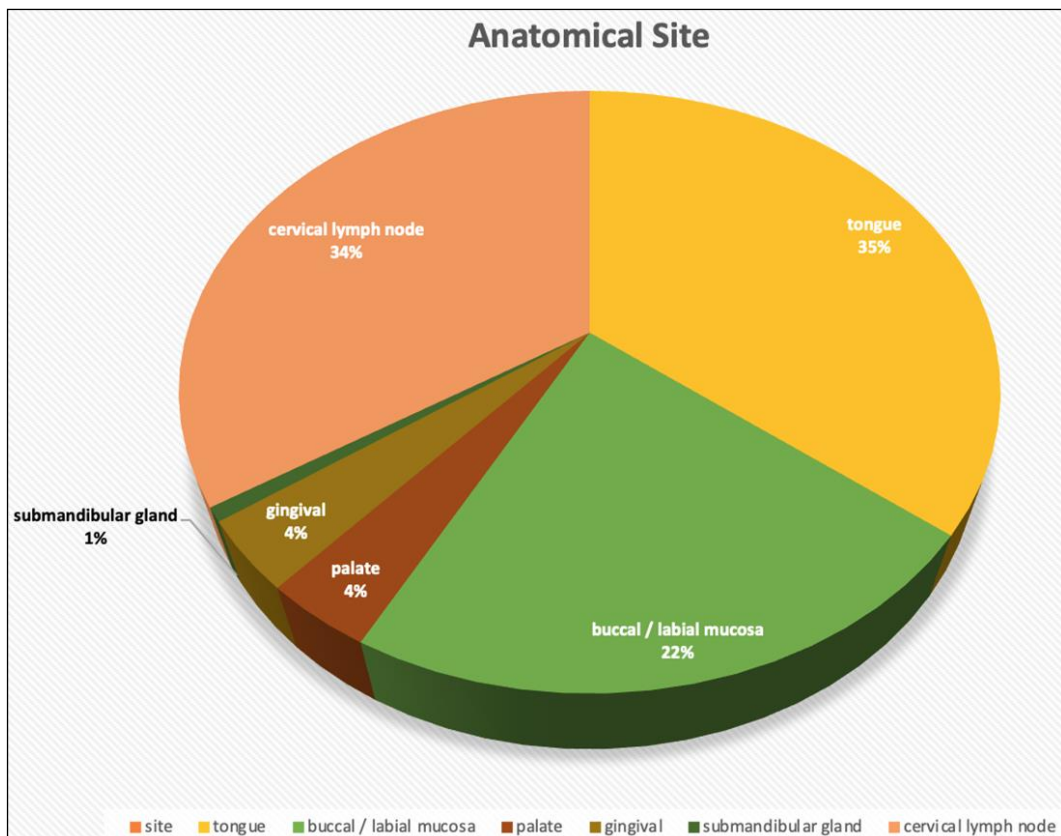


Fig 2: Site association.

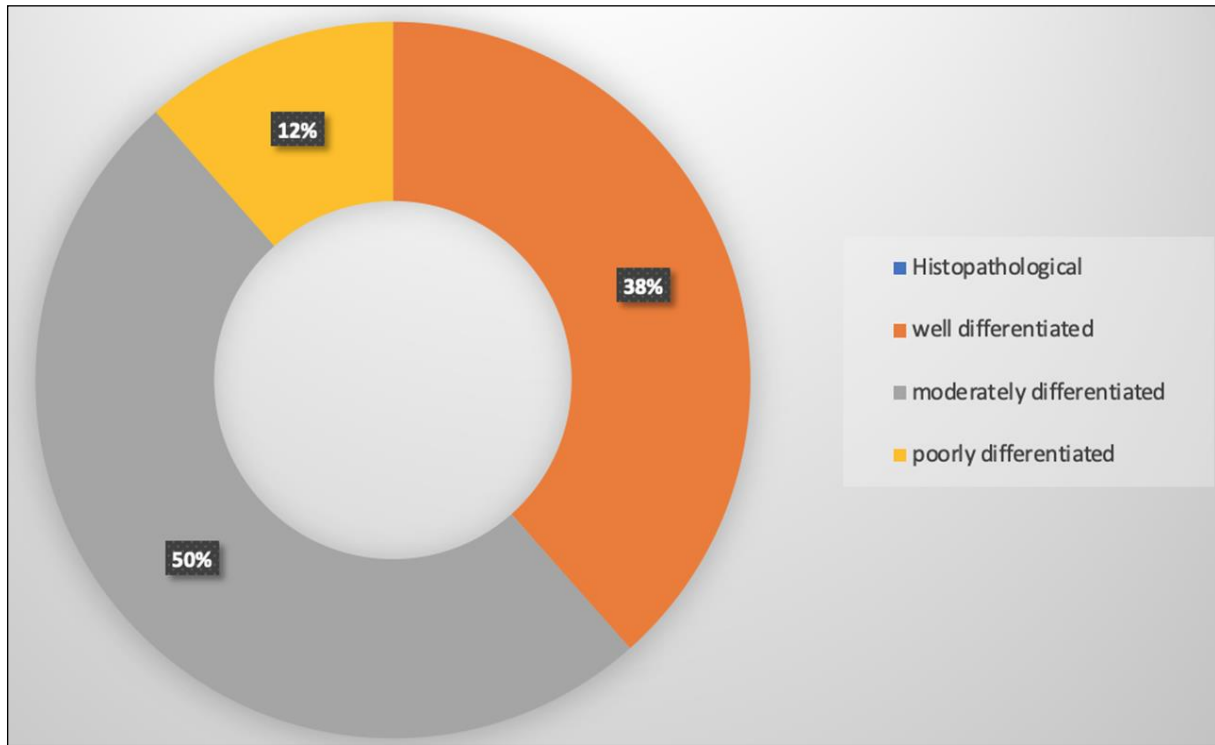


Fig 3: Histopathological Distribution.

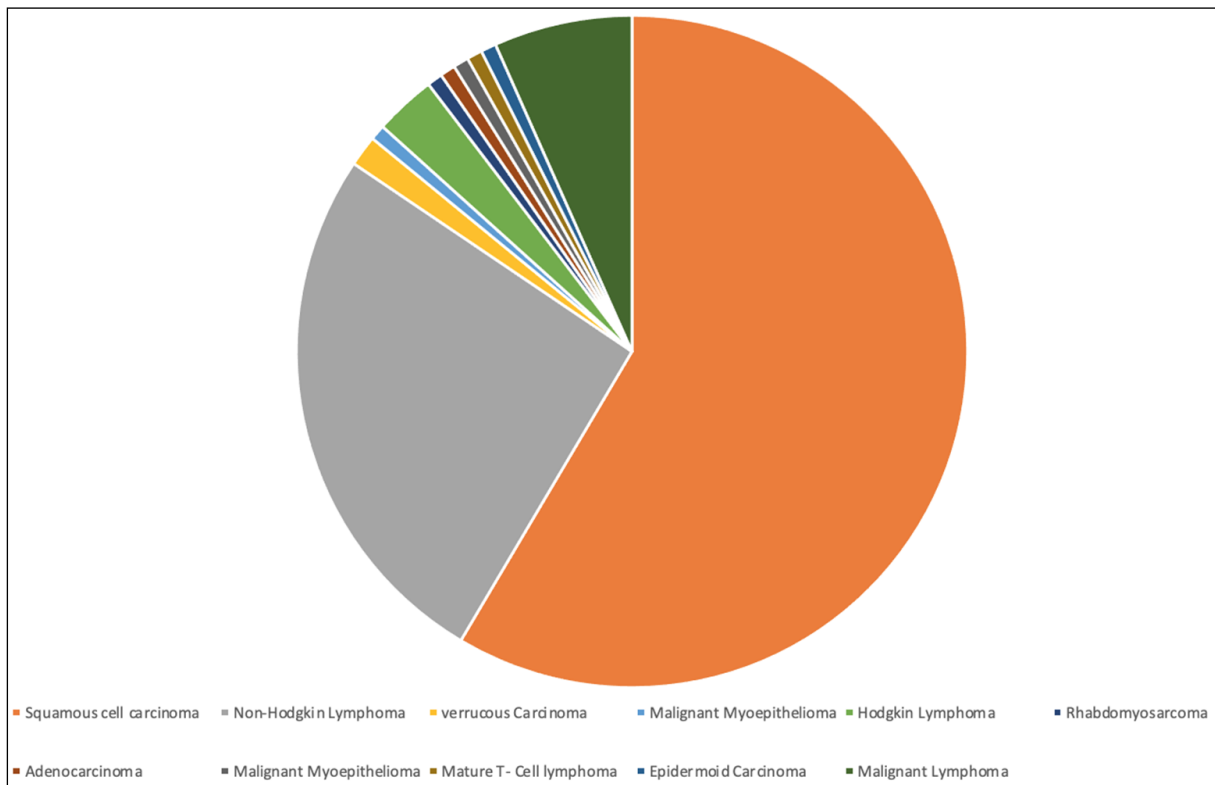


Fig 4: Types of cancer.

There were 90 (67%) men as compared to 45 (33%) women with high male ratio (fig 1). The age of the patients ranged from 06 to 92 years. Most of the patients (47.9%) were in the age group between 30-60 years followed by patients of more than 60 years (32.9%). However, 1 patient was found to be age 6. The most common site for Oral cancer was tongue (35%), lymph nodes (34%) followed by Buccal mucosa (22%), palate (4%), gingiva (4%) and Submandibular (1%) (Fig 2). The most common cancer type was found to be Squamous cell carcinoma followed by non-Hodgkin lymphoma with least epidermoid carcinoma (fig.4).

Discussion

Understanding the epidemiology and the risk factors for oral cancers can help early identification and prompt treatment of patients with oral cancers. Early detection of oral cancer is crucial because it allows for the early initiation of treatment, which improves the prognosis. Increased morbidity and death are directly correlated with late detection and diagnosis.

In Arunachal Pradesh, the variation in the incidence of oral cancers by sub-site is mostly related to the relative distribution consumption of major risk factors such as tobacco or betel quid chewing, cigarette or bidi smoking and alcohol and poor oral hygiene and its knowledge.

In the present study oral cancer represented in 135 patients in 4-5 years. With male to female ratio of 67/33. youngest of all patients affected was 6-years old and the oldest was 92 years. Most of the patients were in the 3rd and 6th decade.

In the collected data, chewing tobacco and betel nut has been associated to development of buccal mucosa cancer in Arunachal Pradesh. The growth of cancer has been attributed by the use of tobacco or betel quids (tamul paan). Tobacco generates carcinogens such as tobacco specific nitrosamines and free radicals that can impede antioxidant enzymes such as glutathione S transferase, glutathione reductase, superoxide dismutase, catalase, and glutathione peroxidase.

As oral cancers are accessible for clinical examination and amenable to diagnosis by current diagnostic tools, the problem is that most of the cases report late to the health care facility which reduces the chances of survival. As primary prevention is the potential strategy for long term disease control, education of the community regarding strengthening of tobacco free environment and prevention of oral cancer by screening for early diagnosis is recommended.

The limitation of the present study is that the data was only collected from 1 hospital i.e TRIHMS, Naharlagun with predictable multiple undiagnosed case in various other hospitals. The lack of awareness by the public and mediocre facilities in rural government Hospitals also plays an important role in exponential growth of Oral cancer.

Conclusion

Oral cancer represents 2nd most cancers in India. There is a male predominance over female population. Peak age of occurrence is the 3rd and 6th decade. Two third of the patients were chronic smokers and betel quid chewer (tamul paan) and more than one third were alcoholics. Tongue was the most common affected site followed by buccal mucosa and Squamous Cell Carcinoma was the most common oral cancer among Arunachal Population.

Oral cancer can be prevented by Early detection, Dental Health Education and with adequate dental professional work force.

Acknowledgement

I extend my gratitude to TCC department of TRIHMS & Dr Mepung Liyak for providing access to the data for this study. I acknowledge Dr. Tage Tamo and Dr. Lishi Anju for their encouragement to get this article done.

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