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Various treatment options of early carcinoma buccal mucosa involving commissure: a tertiary care centre experience of six years

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ABSTRACT

Background: Carcinoma of the buccal mucosa is the most common cancer of the oral cavity in India and involvement of commissure poses unique challenge in reconstruction after surgery. Aim was to analyse the demographics, presentations and various treatment options of early carcinoma buccal mucosa involving oral commissure.

Methods: A retrospective review from clinical case records at our institution between 2014 and 2019 were analysed. All the cases recruited were analysed based on patient characteristics, clinical presentation, surgical and adjuvant therapy rendered. Statistical analysis was done using SPSS 20 software.

Results: A total of 40 patients of primary carcinoma buccal mucosa with T1 to T3 disease involving commissure were analysed. Median age of presentation was 51 years with male preponderance (24:16). 32 patients were offered surgery as the initial line of management and 8 received definitive radiotherapy. The estimated 5-year survival was around 30%. Two patients with clinically T2 disease were upstaged in the postoperative histopathology to T3 and T4a respectively one due to depth of invasion >10 mm and the other owing to commissural skin involvement detected only in the final HPE.

Conclusions: Early carcinoma of the buccal mucosa clinically extending from commissure poses unique challenges in choosing treatment modalities. In view of the location of the tumour it poses a small chance of upstaging of early disease in the final histopathology.

Keywords: Buccal mucosa, Carcinoma, Commissure, T-stage

INTRODUCTION

Oral and pharyngeal cancer grouped together constitute the sixth most common cancer in the world. Cancers of the oral cavity are known to be associated with high mortality and morbidity. Although in western countries, the incidence of oral cancers is about 3% of all malignancies in India, it ranks number one with 45%. Oral cavity malignancies have second largest cancer related incidence, prevalence and mortality in India contributing a significant proportion to the global burden

according to GloboCan 2018 update.¹ Treatment of oral cancer poses unique reconstructive challenges, owing to the dynamic architecture of the oral cavity and location of primary lesion. Carcinoma of the buccal mucosa is the most common cancer of the oral cavity in India and involvement of commissure poses unique challenge in reconstruction after surgery.

The aim of the study was to analyse the demographics, presentations and various treatment options of early carcinoma buccal mucosa involving oral commissure and understand the prognosis and survival pattern of such anteriorly placed subset of lesions.

METHODS

A retrospective review of early primary carcinoma of the buccal mucosa involving commissure from clinical case records at our institution between 2014 and 2019 were analysed.

All the cases recruited were analysed based on patient characteristics, clinical presentation, surgical and adjuvant therapy rendered. The clinical stage of the disease was compared with the final histopathological staging and the subsequent treatment outcomes were studied. A retrospective chart review was carried out using the hospital's data base for the same.

All patients with biopsy proven carcinoma buccal mucosa T1 to T3 involving oral commissure were included in the study.

T4a and T4b lesions, clinically N3 nodal disease, proven metastasis M1, recurrent lesions were excluded fron the study.

Statistical analysis

Various factors associated with such anteriorly placed buccal mucosa lesions were analysed using SPSS 20 software. Kaplan Meir curve was used for survival analysis of all patients.

RESULTS

A total of 40 patients of primary carcinoma buccal mucosa with T1 to T3 disease involving commissure were analysed. Median age of presentation was 51 years with male preponderance (24:16). Most common associated risk factor was tobacco chewing. There were 8 patients who did not have any predisposing risk factors or habituations. The predominant pattern of presentation was a ulcero-proliferative growth with a median duration of 3 months. Around 95% of the patients had poor oral hygiene and 6 patients had associated premalignant lesions in the oral cavity (3 with leucoplakia and 3 submucosal fibrosis).

The median size of the lesion was 4 cm. The clinical nodal staging were 19 patients N0, 11 patients N1 and 10 patients N2 respectively. 32 patients were offered surgery as the initial line of management and 8 received definitive radiotherapy. The choice of initial line of management of the patients were individualised to each patient. A total of 15 patients underwent wide local excision with primary reconstruction of the angle and split skin graft for buccal defect. Nasolabial flap and forehead flap reconstructions were offered to 7 and 5 patients respectively. 5 patients with T3 disease

underwent composite resection and pectoralis major myocutaneous flap reconstruction.

The postoperative period was predominantly uneventful in most patients. Five patients had flap related morbidity and delayed wound healing which were managed conservatively. One patient developed secondary haemorrhage on postoperative day 11 and external carotid artery ligation was done.

Supraventricular tachycardia was seen in one patient on postoperative day 8 and was optimised with betablockers (Inj. Esmolol was given). The most common histopathological subtype was moderately differentiated squamous cell carcinoma (N-24). The patients were followed up to analyse overall survival. The size of the primary tumour, the grade and nodal status affected the overall survival. The estimated 5-year survival was around 30% with the presence of multiple co morbidities and adjuvant treatment default associated with poor survival.

The final histopathological staging correlated with clinical staging in 30 patients. Two patients with clinically T2 tumour had disease upstaged to T3 and T4a respectively one due to DOI >10 mm and the other owing to commissural skin involvement reported in the final HPE.

Table 1: Patient characteristics.

Patient demographics	Number of patients
Gender	
Male	24
Female	16
Mean age in years	51
T stage	
T1	3
T2	16
Т3	21
N stage	
N0	19
N1	11
N2	10
Treatment	
Surgery	32
Radiotherapy	8

Table 2: Types of surgeries.

Types of surgeries	Number of patients
Wide local excision and split skin graft	15
Nasolabial flap	7
Forehead flap	5
Pectoralis major myocuraneous flap	5

Table 3: Postoperative complications.

Postoperative complications	Number of patients
Minor complications	5
Major complications	2

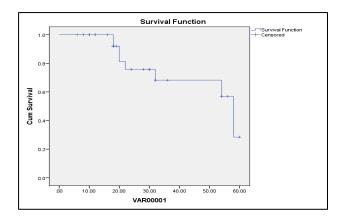


Figure 1: Kaplan meir survival curves of overall survival.

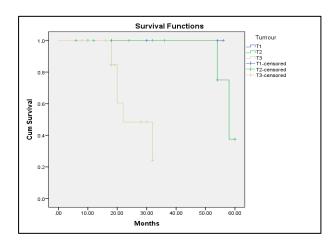


Figure 2: Kaplan meir survival curves of T staging in survival analysis.

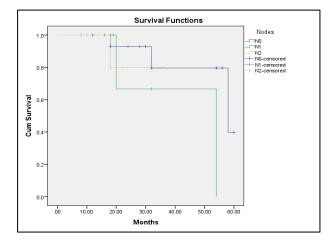


Figure 3: Kaplan meir survival curves of clinical nodal status in survival.

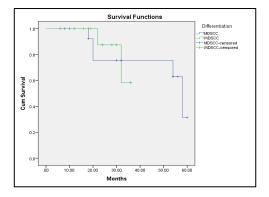


Figure 4: Kaplan meir survival curves of differentiation of tumour in survival.

DISCUSSION

The median age of our patients was 51 years (range 38–70), which is similar to age distribution reported by other studies from India. 7.8 This validates the fact that prolonged contact of the quid with the mucosal site is suggested as an important etiological factor in terms of high incidence at specific sites and high frequency and longer duration of habit among older individuals. 7.9 We also found that 7 patients (4 female and 3 male) did not have any history of tobacco intake. Out of the 40 patients, 40% were females and this is higher in compared to previously published studies in India of 25%-30% that has been reported. 8,10 But it can be reliably concluded that betel nut and quid chewing are of higher incidence among men. This is known to have cause-effect relationship with oral cavity cancer.

The median duration at presentation is 3 months which could be attributed to lack of screening and early detection programs in our subset of population. The estimated overall 5-year survival in our study was found to be 30%. The presence of multiple comorbidities and small sample size could be attributed to the above. The higher the T stage of disease and neck node status were associated with poor prognosis. Age and gender did not contribute to prognosis of the disease. Similar results of non-association of age and gender with buccal mucosal cancer survival has also been reported by other national and international studies.

Comorbidity is common among cancer patients in our study, 25% of all patients had one or more comorbidities like diabetes, hypertension or coronary artery disease. We also found presence of comorbidity to be an independent marker of poor OS. There is reliable evidence that those with comorbidity receive less active treatment than those without, and this impacts their survival probabilities. In our series, the mortality rate in patients with moderately differentiated squamous cell carcinoma were much higher compared with that of patients with well-differentiated cancer. Surgery was the most common initial treatment modality owing to the early stage of the disease which is in line with international standards of care.

Two patients with clinically T2 disease were upstaged in the postoperative histopathology to T3 and T4a respectively one due to depth of invasion >10 mm and the other owing to commissural skin involvement detected only in the final HPE. This leaves us with a question that whether superficial lesions with contiguous spread to the commissural skin can be counted as T4a disease which significantly affects the prognosis and outcome of the disease.

There were several limitations of our study which need to be acknowledged. The study was conducted at a single institution and retrospective nature. A prospectively collected data will identify more detailed prognostic factors that can better account for the outcomes. Second, the single-institutional nature of our dataset may again be interpreted as a limitation, as demographic characteristics of the study cohort may be unique and may not be relevant in risk prediction of other patient populations. However, the study cohort being from a single institution had the advantage of having a uniform treatment policy, including postsurgical adjuvant therapy.

CONCLUSION

Buccal mucosa is the most common subsite among oral cavity malignancies in the Indian subcontinent. Our study evaluates prognostic factors apart from conventional TNM system namely, comorbidity and tumour differentiation. Early carcinoma of the buccal mucosa clinically extending from commissure poses unique challenges in choosing treatment modalities. In view of the location of the tumour it poses a small chance of upstaging of early disease in the final histopathology. Whether commissural skin involvement of an early anteriorly placed lesion affects the overall prognosis of the disease requires further large-scale prospective studies.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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