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Squamous cell carcinoma of oral tongue in young patients — A 10 years tertiary care experience

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ORIGINAL ARTICLE

Squamous cell carcinoma of oral tongue in young patients — A 10 years tertiary care experience

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Abstract

Objective: To evaluate the clinical and pathological profile of young patients with squamous cell carcinoma of tongue.

Methods: The retrospective study was conducted at Aga Khan University Hospital, Karachi, and comprised record of patients <35 years presenting with squamous cell carcinoma of tongue between 2001 and 2011. Data was extracted from the electronic database of the hospital for site and age. Clinico-pathological variables were analysed using SPSS 20.

Results: Of the 29 patients, 17(58.6%) were men and 12(41.3%) were women. The overall mean age at presentation was 29.6+/-4.4 years. All patients (100%) had some sort of addiction, with 15(51.7%) having more than one addiction. Of the total, 20(68.9%) patients had moderately differentiated carcinoma. At presentation, 20(68.9%) had advanced stage (III-IV) disease. Surgery was the primary modality used in all the patients (100%). Median follow-up period was 36 months (range: 1-6 years). During follow-up, 7(24.1%) patients developed recurrence.

Conclusions: Squamous cell carcinoma of the tongue was more commonly seen in males, and multiple addictions were a common risk factor.

Keywords: Squamous cell carcinoma, Addictions, Recurrence, Betel nut. (JPMA 66: 155; 2016)

Introduction

Oral cancer is the sixth most common cancer in the world and is relatively uncommon under 40 years of age.[1,2] In Pakistan, it is the second most common cancer and its incidence has been reported as 18%.[3] This undoubtedly is amongst the highest reported incidences globally.

Aetiologically, it is linked to smoking, tobacco chewing, alcohol, genetic factors, dietary factors, immune deficiency and different types of viruses.[4-7] Apart from the above-mentioned factors, bad chewing habits like tobacco, areca nuts, betel quid, various forms of mixture of tobacco and areca nuts (locally named as paan, chalia, gutka, naswar, main-puri) are resulting in ever increasing incidence of this cancer, especially in young patients.[8-11] The mutagenic effect of tobacco, alcohol, betel quid or areca nut depends on dose, frequency and usage, and the effect is amplified upon using two or more of these agents concurrently. Even though there are no studies available from our region on the dose and frequency of chewing habits, anecdotal data suggests that use of these products is very high in Karachi.

The current study was planned to determine the clinical and pathological profile, the treatment methods adopted, and the outcome among young patients with squamous cell carcinoma (SCC) of the tongue.

Patients and Methods

The retrospective study was conducted at Aga Khan University Hospital (AKUH), Karachi, and comprised record of patients <35 years presenting with SCC of the tongue between 2001 and 2011. Patients aged more than 35 years and those who received treatment outside our hospital were excluded. The patients with previously untreated SCC were completely staged according to the American Joint Committee on Cancer (AJCC) staging system 7th edition.[12] Medical records of all patients were reviewed. Patients with SCC are followed at AKUH monthly in the first year, 2-monthly in the second year, quarterly in the third year and half-yearly in the last 2 years.

Variables analysed for each patient included age at the time of diagnosis, gender, addictions, tumour type, clinical and pathological staging, surgical margins and complications. Local, regional and distant failures were recorded. Data was analysed using SPSS 20.

Results

There were 35 SCC patients, but 6(17%) did not meet the inclusion criteria. Of the 29(83%) patients in the study, 17(58.6%) were male and 12(41.3%) were female patients. The overall mean age was 29±4.4 years. All the 29(00%) patients had some sort of addiction, and 15(51.7%) had

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Table-1: Clinical characteristics.

	Number (n=29)	%
Gender		
Male	17	58.6
Female	12	41.3
Addictions		
Smoking	4	13.7
Tobacco	1	3.4
Paan*	1	3.4
Chahlia*	1	3.4
Ghutka*	3	10.3
Naswar*	4	13.7
More than one	15	51.7
Tumour (T) stage		
T1	7	24.1
T2	15	51.7
T3	6	20.6
T4	1	3.4
N stage (Nodes spread)		
N0	10	34.4
N1	4	13.7
N2	15	51.7
N3	0	
AJCC stage		
I - II	9	31
III - IV	20	68.9

*Various forms of chewable tobacco
AJCC: American Joint Committee on Cancer.

Table-2: Histopathological characteristics.

	Number (n=29)	%
Grades		
Well differentiated	7	24.1
Moderately differentiated	20	68.9
Poorly differentiated	2	6.8
Pathological staging		
Pathological stage I-II	9	31
Pathological stage III-IV	20	68.9
Surgical margins		
<5mm	7	24.1
>5mm	22	75.8
Extracapsular spread	8	27.5
Muscle invasion	8	27.5

more than one addiction. On clinical tumour (T) staging, T2 was the most common in 15(51.7%) patients, followed by T1 7(24.1%)Advanced stage lesions (stages III and IV) were seen in 20(68.9%) patients and early stage lesions (stages I and II) in 9(31%) (Table-1).

Histologically most common grade was that of moderately differentiated carcinoma seen in 20(68.9%) patients. On pathological staging, 20(68.9%) had advanced stage (III and IV) lesions, while 9(31%) had early lesions (stages I and II).

Table-3: Treatment and outcome.

	Number (n=29)	%
Primary treatment		
Surgery	29	100
Radiotherapy	0	
Chemotherapy	0	
Adjuvant treatment		
Surgery	0	
Radiotherapy	13	44.8
Chemoradiation	9	31
None	7	24.1
Neck dissection		
Ipsilateral	20	68.9
Bilateral	9	31
Recurrence		
Local	2	6.8
Regional	4	13.7
Distant	1	3.4
Status at last follow-up		
Dead	7	24.1
Alive with disease	2	6.8
Alive with no disease	20	68.9

Majority of the patients had clear surgical margins of >5 mm, seen in 22(75.8%) patients and none (0%) had involved margins. Extracapsular spread and muscle invasion was found in 8(27.5%) patients (Table 2).

All patients (100%) underwent surgery as the primary modality of treatment, which included both wide local excision of primary tumour along with neck dissection. Postoperative radiotherapy (64Gy) was received by 13(44.8%) patients and 9(31%) underwent chemo-radiation (cisplatin) and 7(24.1%) received no adjuvant treatment. Overall, 20(68.9%) patients underwent ipsilateral neck dissection, while 9(31%) had bilateral neck dissection (Table 3).

The most common surgical complication was wound dehiscence, in 5(17.2%) patients followed by wound infection in 3(10.3%), while 1(3.4%) patient developed secondary haemorrhage and 1(3.4%) established orocutaneous fistula.

Median follow-up was 36 months (range: 1-6 years). During follow-up, 7(24.1%) patients developed recurrence. Among these, 4(13.7%) had recurrence at the regional site, 2(6.8%) had local recurrence, whereas 1(3.4%) developed distant metastasis. All the follow-ups

were recorded from the charts of the patients, and only those patients were contacted through phone who had stopped coming for follow-up. At the latest follow-up, 7(24.1%) patients had died, 2(6.8%) were alive with disease, and 20(68.9%) were alive without any evidence of the disease.

Discussion

The incidence of oral SCC in young patients is relatively low and is reported to be 4% to 6%.[13-15] The reported median age at the time of diagnosis of cancer of the oral tongue is 61 years and approximately 9% of patients are diagnosed before the age of 45 years, while 2% are diagnosed before age 35.[16] In our study the mean age of presentation was 29 years.

Oral SCC is more common in men than in women,[15,17-19] but there have been conflicting reports in literature. alone study[20] on patients with oral SCC aged below 35 years reported a higher proportion of females. In the present study, 17 (58.6%) cases were of men and only 12(41.3%) in women.

In an earlier review of 197 consecutive patients treated for oral tongue cancer in Kerala, India, 82% patients below 30 years did not have addictions.[21] Another report comparing tongue cancer in young and older patients in India concluded that in younger patients, SCC of the tongue was associated with fewer aetiological factors, and in older patients it was always seen in association with smoking, alcohol or chewing tobacco. In contrast, all of our patients had some sort of addiction and majority of them actually had more than one addiction. Previously it was mentioned that development of SCC depends on usage and duration of chewable tobacco, but due to the retrospective nature of our study, exact details regarding use of addictions in terms of duration and frequency could not be ascertained.

One study on young patients with oral SCC showed that 61% patients had stage III-IV disease at the time of presentation,[22] whereas another study had only 36% patients in advanced stage III-IV.[23] We found that 72.4% were in advanced clinical stages at the time of diagnosis, which was higher than the ones quoted above.

In our study the most common histological grade was moderately differentiated carcinoma seen in 20(68.9%) patients. Poorly differentiated cancer was seen in 2(6.8%) patients only. In contrast, one study[15] found 66% well differentiated tumours in the young patients it reviewed. Another study[24] reported 59% well-differentiated and 23% moderately differentiated tumours in young patients.

A review of 152 patients below 40 years of age with tongue cancer[23] reported a failure rate of 57%. Another study reported recurrence in 58.3%.[25] In our study a fairly lower recurrence rate of 24% was noted, with most of the patients having regional recurrence.

A study[25] on young patients with SCC reported that 42.7% patients died of the disease in the first two years of follow-up. On the other hand, we had 7(24.1%) patients who succumbed to the disease. Even in these patients, the exact cause of death could not be ascertained because of the retrospective nature of the study and the fact that most of these patients sought treatment from the nearby hospitals in their last stages of disease.

Conclusion

SCC of the tongue was found more commonly in males. Multiple addictions were a common risk factor in young patients. Even though oral tongue SCC happens infrequently in younger individuals, doubtful lesions should not be overlooked, and histopathologically verified tumours should be managed belligerently with regular follow-up. Additional studies are required to illuminate the biological influences underlying the development of tongue cancer in young individuals.

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