

Factors Deciding the Primary Management in Oral Cancer

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Abstract

Introduction: Oral malignancy commonly caused by oral usage of tobacco products is a challenging one for proper treatment.

Aim: The aim of the study is to study the factors that play an important role in deciding the primary modality of management in oral cancer.

Materials and Methods: A prospective study on the oral cancer conducted in the Department of General Surgery and Surgical Oncology, etc.

Results: In this study, 162 patients were included, 100 were male and 62 were female. In this study, the most patients presented in Stage IV, 48.76% (79 cases). Stage III patients were second most common 32.10% (52 cases).

Conclusions: Among the factors deciding the primary modality of treatment in oral cancer, stage of the disease at diagnosis is the first and foremost, though other factors such as age of the patient, socioeconomic status of the patient, and histological type of the disease are also important in deciding the primary modality of treatment.

Key words: Head and neck malignancy, Management

INTRODUCTION

Cancer of the oral cavity ranks among the ten most common cancers in the world with marked geographical variation.¹ 2-6% of all cancers diagnosed in the US are oral cavity cancers which by themselves accounts for more than 30% of all head and neck cancers. In the US alone more than 30,950 new cases of oral cavity cancer and 4000-8000 deaths are reported each year.²

Worldwide, there is great variation in the incidence of oral cancer. In Western Europe and Australia, the incidence closely resembles that of the US. The highest rates of oral cavity cancers are to be found in France, India, Brazil,

central, and Eastern Europe.³ Regional variation in the incidence of oral cancers is predominantly due to differing social customs. Cancer of the oral cavity ranks among the ten most common cancers in the world with marked geographical variation. Worldwide, there is great variation in the incidence of oral cancer.⁴

Aim

The aim of this study is to identify the factors which play an important role in deciding the primary management and ascertain the same.

MATERIALS AND METHODS

This prospective study was conducted at Department of General Surgery in association with Department of Surgical Oncology, Department of Medical Oncology and Department of Radiation Oncology, Government Rajaji Hospital, Madurai. Patients admitted to oral cancers were included in this study. Approval of the ethical committee of the institution was obtained and informed written consent was obtained from every patient with oral cancer. History

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recorded from every patient including present history, past history, and personal history. A thorough examination of the patient particularly the oral cavity was done and recorded properly. Investigations such as biopsy to confirm the diagnosis, computerized tomography scan, and magnetic resonance imaging scan done to stage the disease apart from investigations to assess the general condition of the patient. The results were tabulated, assessed, and a conclusion obtained.

RESULTS

In this study, 162 patients were included, 100 were male and 62 were female. Most patients presented in Stage IV, 48.76% (79 cases). Stage III patients were the second most common 32.10% (52 cases). Thus, most patients presented late as Stage III and Stage IV. Stage I and II patients were comparatively less (Table 1).

The maximum number of cases 19.75% (32 cases) in males was in the 51-60 age groups. In females, the maximum numbers of cases were seen in the 61-70 age groups 12.35% (20 cases). Overall, in both males and females, the maximum number of cases was noted in the 6th and 7th decade 31.48 (51 cases) and 30.25 (49 cases), respectively (Table 2).

Males constituted 61.73% (100 cases) of the cases where as females made up the remaining 38.27% (62 cases). The sex ratio obtained in the study was 1.61:1 with a range varying from 1:3 to 6.5:1. Except for the third decade, all other decades showed a male predominance (Table 3).

31 cases with Stage I and II disease and 33 cases with Stage III and IV had surgery (Table 4).

Of the total 64 patients who had surgery, 43 patients were offered surgery as the primary treatment. 12 patients had surgery following chemoradiation. 3 patients with adenoid cystic carcinoma and 6 patients with verrucous carcinoma had surgery. Most of the patients with oral cavity cancers who reported at late stages opted for non-operative treatment. Overall, 39.51% of patients with oral cavity cancers underwent surgery (Table 5).

Patients who were operated for verrucous carcinoma does not have other treatment option except surgery, and this histological type of Oral cancer may not be amenable for Radiotherapy as well as chemotherapy, thus it signifies that histology of the disease is one another factor which decides the primary modality of treatment. No recurrences were reported among those 6 patients.

Table 1: Stage-wise distribution of patients

Stage	N (%)
I	8 (4.93)
II	23 (14.20)
III	52 (32.10)
IV	79 (48.76)

Table 2: Distribution of patients according to age and sex

Age	N (%)		
	Male	Female	Total
21-30	1 (0.62)	3 (1.85)	4 (2.47)
31-40	9 (5.56)	7 (4.32)	16 (9.88)
41-50	16 (9.88)	11 (6.79)	27 (16.67)
51-60	32 (19.75)	19 (11.73)	51 (31.48)
61-70	29 (17.90)	20 (12.35)	49 (30.25)
>71	13 (8.02)	2 (1.23)	15 (9.25)
Total	100 (61.73)	62 (38.27)	162 (100)

Table 3: Distribution of patients according to sex

Age	21-30	31-40	41-50	51-60	61-70	>71	Total
Male	1	9	16	32	29	13	100
Female	3	7	11	19	20	2	62
Male:female	1.00:3	1.29:1	1.45:1	1.68:1	1.45:1	6.5:1	1.61:1

Table 4: Number of patients operated based on stage

Stage	N
I	8
II	23
III	14
IV	19

Table 5: Number of patients operated based on site and histology

Type	BM	Tongue	HP	Alveolus	Lip	Total
SCC	18	22	-	2	1	43
Salvage-SCC	4	3	-	3	2	12
ACC	-	-	2	-	1	3
Verrucous	4	-	-	-	2	6
Total	26	25	2	5	6	64

ACC: Adenoid cystic carcinoma, SCC: Squamous cell carcinoma, BM: Buccal mucosa, HP: Hard palate

DISCUSSION

The management of oral malignancies is multifactorial. Nevertheless, surgery has remained the cornerstone of managing these patients and the surgeon's role in the multimodality approach is of paramount importance.^{3,4} Although many factors decide the primary management of

oral cancer, the first and foremost is the stage of the disease. In the present study, 48.76% patients ($n = 79$) presented in Stage IV at the time of diagnosis. Stage III patients were the second most common (32.10% $n = 52$). Thus, the most patients presented late as Stage III and Stage IV. Stage I and II patients were comparatively less (Table 1).

Among the 79 patients, in Stage IV only 19 (24%) were operable/underwent surgery. Similarly, among the 52 patients in Stage III only 14 (26%) underwent surgery whereas all the patients who presented in Stage I and II were operable. This indicates that stage of the cancer at the time of diagnosis is a crucial factor in deciding primary treatment. Similar observations have been made by Güneri *et al.*, stage of the disease was found to significantly affect outcome and prognosis.⁵ In addition, O'Brien *et al.* have analyzed the rate of occult metastasis in node negative oral malignancies. They have concluded that selective neck dissection based on the size of the tumour, in node negative cases can help in early detection of these occult metastases.⁶

The age of the patient is another factor which determines the primary treatment. Around 31.5% were diagnosed in the 6th decade and 30% in 7th decade and most of them (99%) belonged to low income group. Li-Ting *et al.* have noted that adjusting for sex, age at diagnosis, and the site of cancer is the best indicator of severity when staging information is not available.⁷

Socioeconomic status is another factor which determine the primary management, Since literally all the patients except one comes under low socioeconomic group, they form the major group both age-wise and stage-wise, their illiteracy and ignorance might be the reason for them to arrive with advanced diseases, which is the primary factor in determining the primary management of oral cancer. Gellrich *et al.* have studied the effect of nutritional status in oral malignancies and have seen that poor nutritional status significantly affects the quality of life. Professional nutritional counseling and psychosocial support can make a big difference in them.⁸

The histology is one another factor in deciding the primary management. Although squamous cell carcinoma responds equally good with both surgery and radiotherapy, the choice between the treatments is made based on the site, stage of the disease, availability of radiotherapy, and expertise in surgery. In case of verrucous carcinoma and malignant melanoma, surgery is the obvious treatment. According to Kalavrezos *et al.*, the histological factors that determine the surgical management in oral malignancies are grade of the tumour, depth of the lesion, and pattern of invasion.⁹

CONCLUSION

Among the factors deciding the primary modality of treatment in oral cancer stage of the disease at diagnosis is the first and foremost, though other factors such as age of the patient, socioeconomic status of the patient, and histological type of the disease are also important in deciding the primary modality of treatment.

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