

PROSTHETIC REHABILITATION OF ORAL CANCER PATIENTS: A SURVEY

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ABSTRACT

The objective of this study was to highlight the importance of Maxillofacial Prosthesis in the management of Oral Cancer after the surgical resection. It was an observational hospital based study conducted at Prosthetic department of de, Montmorancy College of Dentistry, Lahore in collaboration with Inmole Hospital, Lahore over a period of one year.

Out of a total of 2036 cancer patients, 125 patients, were found to have a cancer of oral and maxillofacial region, and they were included in the study. The patients who were treated surgically were further examined and analysed for possible prosthetic rehabilitation.

Of all the cancer patients 6% were found to have oral cancers. The tongue cancer was the most common, seen in 33 (26.4%) cases; the cheek cancer was found in 21 (16.8%), the parotid gland cancer in 20 (16%) while nasal cancer and that of the floor of the mouth were seen in 15 (12%) of cases each. The cancer of lip (4.8%) ear (2.4%) and soft palate (1.6%) made a little contribution. The results obtained from this study showed that at least half of the surgically treated oral cancer patients could have been successfully rehabilitated by different prosthesis, but many never received any.

Key words: Maxillofacial Prosthesis, Oral Cancer, obturator, speech aid prosthesis, glossectomy prosthesis, mandibulectomy prosthesis.

INTRODUCTION

Surgical resection of oral and maxillofacial region due to cancer causes oral and para-oral defects. The best way of rehabilitation for these patients is the surgical reconstruction. But not all these patients are good candidates for surgical reconstruction.^{1,2} The maxillofacial prosthetics is the alternative way of rehabilitation for oral and para oral defects. Prosthetic rehabilitation is the quick, effective and economical method for patients to improve their quality of life³.

In this study data about oral cancer patients had been collected and analysed for possible prosthetic indications. The objective of this study was to highlight the importance of maxillofacial prosthetics for rehabilitation of oral cancer patients.

MATERIALS AND METHODS

125 patients were selected to carry out the project. The majority of patients were seen in Inmole Hospital Lahore, while some patients were seen in de, Montmorency College of Dentistry, Lahore. This study was spread over a period of one year.

The patients suffering from malignant lesions of lip, cheek, floor of the mouth, tongue, maxillary sinus, soft palate, parotid gland, nose and ear were included. The information regarding patient age, sex, tumour type, tumour stage and treatment protocol was collected. The patients who had received radiotherapy alone (36 cases) were not included in this study. The 89 patients who had surgery along with or without radiotherapy were further examined. During examination extent of surgical resection was noted. This data was

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than analysed for possible prosthetic rehabilitation. All data was analysed by Descriptive Statistics and frequency percentage test using SPSS version 11, software for Windows, on a personal computer.

RESULTS

2036 cancer patients reported in Inmole Hospital Lahore during one year period of this study. Out of these, 125 cases had cancer of the oral and maxillofacial region (Table-1). Eighty nine cases were treated surgically along with radiotherapy, while thirty six received only radiotherapy. The former was further evaluated for prosthetic proposition.

Maxillary sinus cancer was reported in ten patients. All patients received surgical therapy along with radiotherapy.

Two cases of soft palate cancer were reported. Both had surgical resection and received radiotherapy.

Thirty three cases of tongue cancer were observed. Twenty patients had surgical resection and thirteen received only radiotherapy. Of the twenty surgical patients, twelve patients had only marginal glossectomy without any significant functional disability. The remaining eight patients had partial to complete glossectomy with significant functional impairment.

Twenty cases of parotid gland cancer were observed. Sixteen were treated surgically while four cases received only radiotherapy. In the surgical cases,

ten patients had mandibulectomy along with parotid resection.

Six cases had lip cancer. Five cases were treated surgically. All surgically treated patients had relatively smaller defects and suitable for surgical reconstruction.

Twenty one cases of cheek cancer were observed. Out of twenty one cases thirteen cases had surgical resection, while eight cases received radiotherapy only.

Fifteen cases had involvement of floor of the mouth. Eight cases had surgical resection and these referred for radiotherapy while seven patients received only radiotherapy.

Fifteen cases of nose cancer were observed. Twelve patients were treated surgically while three received only radiotherapy.

Ear cancer was found in three patients. All had surgical resection and also received radiotherapy.

DISCUSSION

The Oral Cancer patients are treated in most of the major hospitals of Lahore city, especially where general surgery and E.N.T departments are well established. As a treatment protocol most of the patients are referred for radiotherapy. The radiotherapy hospitals working under the supervision of Pakistan Atomic

TABLE 1: SEX DISTRIBUTION IN ORAL CANCER PATIENTS

	CASES	MALE	FEMALE	Percentage	
				Male	Female
Lip	6	5	1	83	17
Cheek	21	10	11	47.6	52.4
Tongue	33	25	8	75	25
Floor of the Mouth	15	9	6	60	40
Maxillary Sinus	10	8	2	80	20
Soft Palate	2	2	x	100	0
Parotid Gland	20	13	7	65	25
Nose	15	10	5	66	34
Ear	3	3	x	100	0
Total:	125	85	40	68	32

Energy Commission are the main sites where the maximum number of cancer patients report. All major general hospitals of Lahore refer their cancer cases for radiotherapy both pre or post surgically.

2036 cancer patients reported in one-year duration to Inmole Hospital. Out of these, only 125 had oral cancer and were included in this study. The patients had cancer of lip, cheek, tongue, floor of the mouth involving mandible, maxillary sinus, soft palate, parotid gland involving mandible, nose and ear. The study shows that as many as 6% of all cancer cases are of oral cancer. Blot et al⁴ rank it as third most common cancer of the body in South Asia. Boring et al⁵ ranked it the fifth most common body cancer in Europe.

The incidence was higher among men than women. The ratio was approximately 2:1 (Table 1). These figures are similar to others^{4,5,6,7}.

Eighty six percent cases in this study were found above the age of 40 years, which is similar to figures all over the world^{4,7}

Eighty nine (70%) of all oral cancer patients were treated surgically and then referred to Inmole Hospital for radiotherapy. The remaining thirty six (30%) received radiotherapy alone. The former eighty nine cases were selected for this project. Among all these surgical cases, thirty five (39%) were found suitable for surgical reconstruction. Smaller soft tissue loss, younger age and good health were the determining factors. The remaining fifty four (61%) cases were found hopeless for any surgical reconstruction. The greater loss of hard and soft tissue, increasing age and poor health were main factors which eliminated the prospect of any surgical reconstruction.

61% of surgical cases which is 43% of all oral cancer patients i.e. fifty four were further analyzed and found suitable for possible prosthetic rehabilitation.

In this study the incidence of maxillary sinus cancer was found in ten (8.13%) cases. These patients had partial to complete maxillectomy and could not be restored through surgical reconstruction, and could only be rehabilitated prosthetically. During this study it was observed that no patient with maxillectomy benefited from surgical obturators. The reason could be attributed to lack of guidance to the patients and lack of co-ordination between the surgeons and the

prosthodontists. Four patients with maxillectomy received an interim obturator, which improved their quality of life. Only six patients received definitive obturator. Delay in prosthetic rehabilitation creates some distortion of face on affected side and causes psychological trauma to patients. The definitive obturators provided to the patients greatly improve their quality of life.

Two patients (1.6%) had soft palate carcinoma, and underwent soft palate resection. These patients were provided speech aid prostheses in Prosthetic Department of de, Montmorency College of Dentistry, Lahore. The prosthesis significantly improved the voice quality and restored the deglutition balance.

In this study, tongue cancer was found in thirty three (26.4%) cases. Twenty received surgical treatment with radiotherapy, and twelve patients had marginal tongue resection without any significant functional impairment. The remaining eight patients had partial to complete glossectomy with significant functional impairment. These eight patients which constitute more than 40% of the glossectomy cases can be rehabilitated prosthetically. Unfortunately, no one of these patients reported to the Prosthetic Department of de, Montmorency College of Dentistry, Lahore which is the only centre in Punjab for this type of treatment.

There were twenty (16.5%) cases, of parotid gland cancer. Four patients had radiotherapy alone. In sixteen surgical patients ten had mandibulectomy. Fifteen cases of cancer of floor of the mouth were observed, eight had mandibular involvement. These patients had partial or segmental resection with mandibular discontinuity. Prosthetic rehabilitation was considered for all these eighteen patients. For the mandibular involvement found, in this study, in eighteen cases (14.5%) of all cancer patients various prosthetic options are available but probably better results can be obtained with implant placement. Implants have a draw back of high cost, which can be compensated with the help of hospital patient's welfare funds. Out of eighteen patients only one patient reported for prosthetic rehabilitation.

Six (4.87%) cases of lip cancer were examined. All the patients had surgical resection. All these patients had small surgical defects, and could be successfully reconstructed by surgery.

In this study cheek cancer was found in twenty one (17%) cases. Thirteen were treated surgically while eight cases received only radiotherapy. Six had small soft tissue defects which were found more suitable for surgical reconstruction. The remaining seven cases had cheek resection involving adjacent alveolar processes. These were considered suitable for prosthetic rehabilitation.

Nose cancer was found in fifteen (12.19%) cases, of total oral cancers. Twelve were treated surgically while three received only radiotherapy. Four of the surgical cases were found suitable for reconstruction, while eight had no choice other than prosthetic rehabilitation.

Ear cancer was observed in three (2.4%) cases only. Two had complete resection of external ear and could only be rehabilitated prosthetically.

Unfortunately none of these maxillofacial patients reported to the Prosthetic Department of de, Montmorency College of Dentistry, Lahore for rehabilitation. This may be due to lack of proper patient guidance, poor patient motivation and lack of team approach among professionals.

CONCLUSION

From this study, it can be concluded that oral cancer is common in our part of the world. The tongue cancer is the most common type of oral cancer. During this study it was observed that there is a lack of proper

guidance to patients for rehabilitation. Many patients who can be benefited from prosthesis never received any prosthesis. There is a need to set up prosthetic rehabilitation centres in those hospitals where oral cancer patients are treated, and a prosthodontist should be involved during treatment planning of oral cancer patients

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