A Retrospective Study of Oral Cancer

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Abstract: Oral cancer is one of the commonest malignancies in India. Most of these cases are usually managed in tertiary cancer hospitals as they require multimodality approach. Sixty six cases of oral cancer were operated in one unit of general surgery in Osmania General Hospital, a teaching hospital in Hyderabad, Andhra Pradesh, during a period of 10 years from 2004 to 2014. All these cases were subjected to adjuvant external Radiotherapy and followed up. These results were analysed.

Key Words: Oral cancer, Composite resection, Neck dissection

Introduction

The incidence of oral cancer in India is 10.8 to 38.8 in males and 1.1 to 14.9 in females per 100,000 population. Here in India, the common sites are buccal mucosa and tongue, while in the west it is the floor of the mouth, and in Czechoslovakia especially, it is the lips (ref.1). Oral Cancer is a common malignancy in males in South India and is because of the use of Tobacco, Betel nut chewing and Gutka.

The most common histopathological variety is Squamous cell carcinoma. Oral cancer treatment combines all the three modalities of Surgery, Radiotherapy and Chemotherapy. The mainstay is surgical resection. In this study, we treated sixty six cases. All underwent surgery in the form of wide excision including Composite resection in some and they were subjected to adjuvant external Radiotherapy.

Material and methods

Cases of oral cancer who presented to surgical out-patient were admitted and a protocol followed. Thorough examination was done in good light with a cheek retractor and a tongue depressor. The site of the lesion and extent of the lesion was assessed. Other sites in the oral cavity were searched for any other malignant and premalignant lesions. Cervical lymph nodal examination was done bilaterally. The disease was staged by TNM. Disease was confirmed by a biopsy of the primary lesion. In cases of enlarged Cervical Lymph nodes fine needle aspiration was done. CT scan of the Head and neck was done in cases of advanced disease.

Specific Investigations before definitive treatment as per the guidelines given by the Tata Memorial Hospital, Mumbai are as follows:

1. OPG/Dental occlusal view for mandibular involvement.
2. USG neck for clinically not palpable node, high suspicion and difficult neck examination.
3. CT scan if recent onset trismus (ITF involvement), suspected vascular/maxillary infiltration.
4. MRI in selected cases to evaluate soft tissue extent eg. Base tongue
5. EUA for mapping of lesion.

We followed this protocol and apart from routine surgical profile and metastatic work up, cardiac assessment was done. After a thorough pre-anesthetic examination, cases were taken up for surgery. Most of the cases were operated with oral intubation. In some, where there was severe trismus, blind nasal intubation was done.

For small growths, wide excision of the lesion was done via oral cavity and defects closed primarily. When the tissue loss was more, primary reconstruction was done with regional flaps like Narayanan flap, Pectoralis Major myocutaneous flap, Deltoplectoral flap etc. Tongue lesions also were approached via oral cavity. Wedge excision, Partial, Hemi or Subtotal Glossectomy were performed.

For large growths and in advanced disease like full thickness cheek lesions, the approach was via a submandibular incision. In all these cases, Composite resection of the cheek was done. A radical neck dissection or a modified radical neck dissection usually via a MacFee incision was added.
Composite resection with reconstruction was done in some cases when the tissue loss was more. The growth was approached via a submandibular incision. Wide excision of the lesion with a minimum healthy margin of one to two cms, with some form of mandibulectomy (segmental, hemi or marginal) and/or lower partial maxillectomy and radical or modified radical neck dissection was done. Reconstruction was done in some of the cases when required, with regional flaps, mostly myocutaneous or fascio-cutaneous or a combination. No microvascular flaps was done in this series. Only soft tissue reconstruction was done (without bone).

Elective prophylactic tracheostomy became necessary in three cases. In about six cases, postoperative elective ventilation for few hours to two days was necessary.

Naso-gastric tube feeding was started after forty eight hours of surgery in all the cases. Drains were removed after five to seven days. Patients were started on oral feeds after two to three weeks.

All the cases were given post operative External Radiotherapy.

**Results**

Total number of cases operated: 66

<table>
<thead>
<tr>
<th>Site of origin</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Lower lip</td>
<td>2</td>
</tr>
<tr>
<td>2 Upper lip</td>
<td>1</td>
</tr>
<tr>
<td>3 Lower alveolus</td>
<td>12</td>
</tr>
<tr>
<td>4 Upper alveolus</td>
<td>4</td>
</tr>
<tr>
<td>5 Mandible</td>
<td>1</td>
</tr>
<tr>
<td>6 Tongue</td>
<td>8</td>
</tr>
<tr>
<td>7 Floor of the mouth</td>
<td>3</td>
</tr>
<tr>
<td>8 Buccal mucosa</td>
<td>7</td>
</tr>
<tr>
<td>9 Retromolar trigone</td>
<td>6</td>
</tr>
<tr>
<td>10 Full thickness Cheek</td>
<td>22</td>
</tr>
</tbody>
</table>

All the patients withstood surgery well.

Two patients died of transfusion related complications. Within forty eight hours of surgery four patients died of multi-organ failure. Three patients developed wound infection but they recovered completely.

Primary closure was done in twenty cases. Major reconstructive procedures were done in forty six cases. No flap necrosis occurred in the first week after surgery. Three patients had flap necrosis at two weeks. In cases of

Pectoralis major, Delto-pectoral and Narayanan flaps, pedicle division and final insetting of the flap was done either three weeks after surgery or completion of radiotherapy.

All the patients were sent for external radiotherapy. Speech and swallowing are acceptable. Results after major reconstruction are quite acceptable functionally, aesthetically and cosmetically.
Fig. 5 Ca. Buccal mucosa: Composite resection and primary closure

Fig. 6 Ca. Tongue: Composite resection and primary closure

Fig. 7 Ca. Mandible: Composite resection and reconstruction with scalp flap for cover

Fig. 8 Ca. Cheek full thickness: Composite resection and reconstruction with Pectoralis myocutaneous flap for lining and Deltopectoral flap for cover

Fig. 9 Ca. Cheek full thickness: Composite resection and reconstruction with Narayanan Forehead flap for lining and Scalp flap for cover

Fig. 10 Ca. Cheek full thickness: Composite resection and reconstruction with Pectoralis major Myocutaneous flap for lining and Deltopectoral flap for cover

Fig. 11 Ca. Buccal mucosa: Composite resection and primary closure. Three years after surgery.
Discussion

In general, Oral cancers are not associated with a favorable prognosis following any modality of management when compared to many other malignancies. This is due to many factors. The first and foremost is the delay in presentation. Complex anatomy of the oral cavity and proximity to important vital structures creates a lot of technical problems during resection. Radical resections in this area require major reconstructive procedures. Most of the patients with advanced disease are already in a badly nourished state. These growths are quite aggressive and present with a very early recurrence. In oral cancers, distant metastases are quite rare. Patients present with metastases in cervical lymph nodes. Most of the patients succumb to the local or regional disease and not distant metastases.

These lesions start with an ulcer, erosion or proliferative growth and sometimes in an area of a premalignant lesion like aleukoplakic patch. Slowly they involve the neighbouring bone mandible, maxilla or both and neighboring soft tissues. They may present with trismus due to involvement of retromolar trigone or due to Submucous fibrosis.

Oral cancer needs to be treated by a multi-modality approach. Even though radiation gives equally good results in early T1 and T2 lesions at some sites, surgery followed by radiotherapy yields better results.

The advantages of irradiation may include: (1) the risk of a major post-operative complication is avoided, (2) no tissue is removed so that the probability of a functional or cosmetic defect is reduced, (3) elective irradiation of the lymph nodes can be included with little added morbidity, whereas the surgeon must either observe the neck or proceed with an elective neck dissection (sometimes bilateral depending on the primary site) and (4) the surgical salvage of irradiation failure is probably more likely than the salvage of a surgical failure, radiotherapy or both. Surgical recurrences usually develop at the margins of the resection, in or near the suture line. It is difficult to distinguish the normal surgical scarring from recurrent disease, and diagnosis of recurrence is often delayed. Tumor response to radiation therapy under these circumstances is poor. An operation, radiation therapy or both, however, may salvage small mucosal recurrences and some neck recurrences.¹

Surgery is the preferred treatment for early and advanced buccal carcinoma in North America. Patients with advanced disease should receive postoperative radiation or chemoradiation. Surgical approach depends on the size of the tumor. Small lesions can usually be treated via transoral wide local excision, whereas advanced lesions usually require excision via a cheek flap. Composite resection is indicated for mandibular invasion, while partial maxillectomy is used for superior alveolar ridge invasion. Complete resection of the tumor with negative margins confirmed by frozen section histopathology is the goal. Positive margins are associated with increased recurrence and decreased survival rates.

Metastatic neck disease (N+ disease) requires either a modified radical neck dissection or radical neck dissection depending on the extent of the disease. Management of the clinically negative neck is controversial.²

Loco-regional control in patients with squamous cell carcinoma of the oral tongue can be achieved with primary surgical treatment. Adequate margins are crucial to local control. Salvage neck dissection may result in long-term survival for patients with regional relapse. Because of the high rate of occult disease (41%), prophylactic treatment of regional lymphatics is recommended for primary clinical disease of T2 or greater.³

The goal of reconstruction is to prevent contracture in the buccal region that could interfere with function of the oral cavity. The type of reconstruction depends on the size of the surgical defect and the tissue that needs to be replaced. The tissue defect may involve the mucosa, skin, bone, or any combination of these. Reconstructive options include primary closure; healing by secondary intention; split thickness skin graft; local flaps; regional flaps (eg, pectoralis major) or free tissue transfer (eg radial forearm flap, anterolateral thigh flap, fibular osteocutaneous flap).⁴ Significant improvement in DSS was seen in patients with clear margins, early stage grouping and clinical (pre-treatment) tumor stage, and negative nodes. Significant decrease in DSS was seen in patients with close or involved margins, advanced stage grouping and clinical (pretreatment) tumor staging, positive clinical (pretreatment) node staging, and tumor recurrence. Obtaining clear margins of resection is crucial because it significantly affects survival. A minimum of 5 years of close monitoring is recommended because of the high incidence of second primary cancers.⁵
All the cases underwent surgery and adjuvant radiotherapy and were followed up. Most of the cases in our series were quite advanced and T4 lesions. After surgery all of them were disease free. Local complications of the growth were avoided like bleeding, foul smell, aspiration and oro-cutaneous fistula. Even though these procedures are not curative and may not prolong the survival to a greater extent, they gave a good quality of life. These patients were able to communicate, take semisolid foods and were pain free. Thus, good palliation was achieved in almost all the patients. Ten patients lived for three years. Five patients died of local recurrence after two years. Twenty six patients are on follow up and disease free after one year. Five patients have completed Radiation recently and are disease free. Twenty patients are lost for follow up.

**Conclusion**

Oral cancer still poses a challenge in head and neck oncology. Early diagnosis with surgical resection followed by external radiotherapy gives the best of the results by way of increased survival and better local control rates. Surgical resection gives best palliation even in very advanced growths.

**References:**

1. Guidelines for management of Head & Neck cancer By Tata memorial Hospital.
4. Medscape. Buccal Carcinoma Treatment & Management.Christopher Klem, MD;Chief Editor:Arlen d Meyers, MD, MBA.