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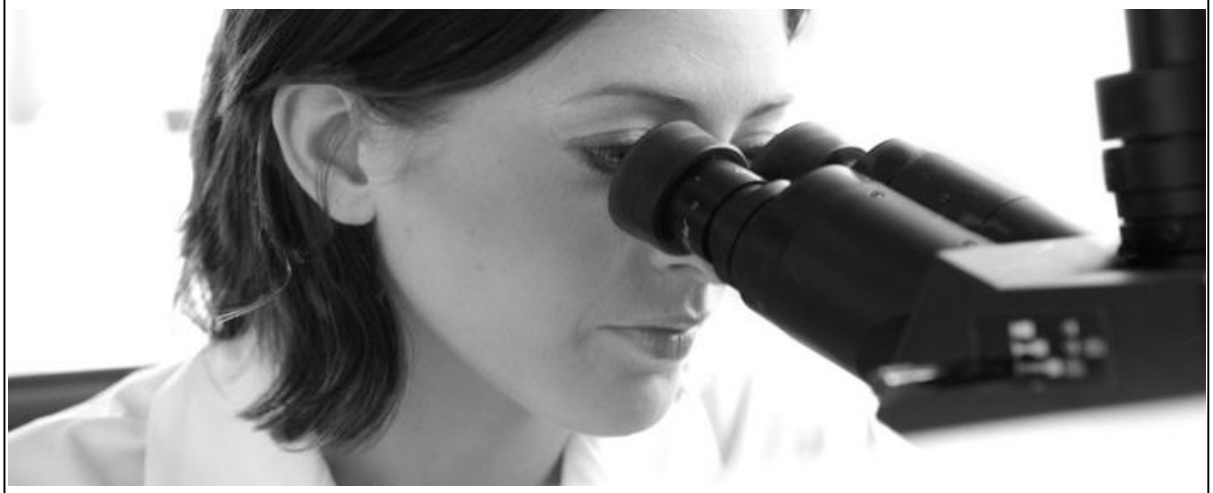

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RESEARCH ARTICLE

PALATAL OBTURATOR- A CASE REPORT

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INTRODUCTION

According to recent studies, Oral and pharyngeal cancers have been grouped together as the sixth most common cancer in the world. The continued addiction to tobacco products like cigarettes, the Indian beedi, tobacco chewing and storing the tobacco in the buccal pouch for prolonged periods has been unforgiving on the oral health of the common population.

Surgical resection of the maxilla for cancer of the maxillary antrum and/or hard palate debilitates the lifestyle of the patient to a great extent by creating a communication between the oral cavity, nasal cavity, and maxillary sinus thus affecting the functions like mastication, swallowing, speaking etc.

It also further results in psychological problems. Prosthodontic rehabilitation aims at separating the oral and the nasal cavity using obturator prostheses to improve deglutition, speech and facial appearance, and also sometimes to support the orbital contents to prevent enophthalmos and diplopia. The obturator has been a boon to the lifestyle of such patients who had undergone a resection of major portions of affected areas of oral cavity.

Fabrication of anobturator prosthesis is based on the application of basic prosthodontic principles. The defect, along with the remaining structures, must provide sufficient retention and stability to the obturator prosthesis.

Regular prosthodontic care for the patient with the acquired maxillary defect should include cautious prosthesis design combined with routine maintenance care to provide comfort, function, cosmetics to the compromised remaining structures. There are many types of obturators based on the timing of fabrication and the area of rehabilitation.

Following surgery, there may remain a residual oronasal opening on the palate, alveolar ridge, or labial vestibule. A palatal obturator is a prosthesis that totally occludes an opening such as an oronasal fistula . They are similar to dental retainers, but without the front wire. This obturator may be used to aid in speech and compensate for hypernasality also correcting the compensatory articulation caused by the defect. The palatal obturator covers any communication in the roof of the mouth that leads to the nasal cavity, providing the wearer with a plastic/acrylic removable roof of the mouth, which aids in speech, eating, and proper air flow and prevents nasal regurgitation.

Based on the timing of placement of the obturator:

A Surgical Prosthesis is placed at the time of surgery

An Interim palatal obturator is used post-palatal surgery. This obturator closes the remaining fistula and is used when no further surgical procedures are planned. It must be frequently revised. A Definitive obturator is used when further rehabilitation is not possible for the patient and is intended for long-term use.

Case Report

A 38 year old female reported to BBDCODS with reduced mouth opening and a red lesion in the palatal vault.

Fig 1 Patient Extra Oral View Post Operatively

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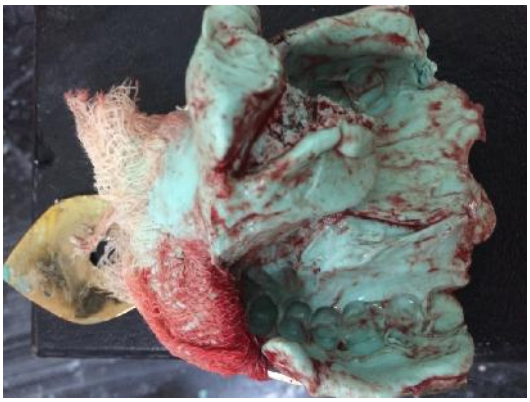

Fig 2 Alginate Impression Taken Postoperatively

Fig 3 Immediate Obturator

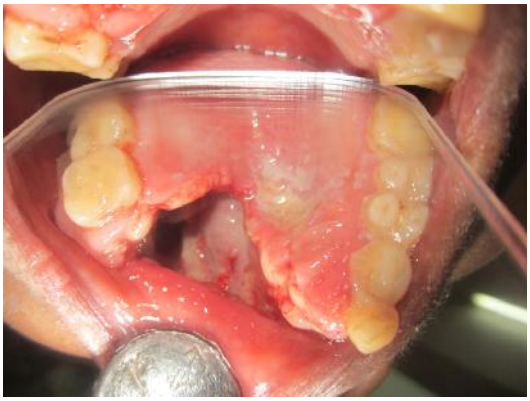

Fig 4 Intraoral Post Operative View

Fig 5 Immediate Obturator Inserted

Following biopsy she was diagnosed with Oral cancer of the Palate. Partial maxillectomy was performed for the affected area of the palatal vault including anterior ridge area with a few anterior teeth. Immediately after resection an impression with alginate was taken to record the resected area.(fig1&2) The appropriate rim lock tray was used with gauze to strengthen the alginate impression extending into the defect created. A final cast was poured with dental stone and the undercuts in the defect were blocked with wax on the cast.

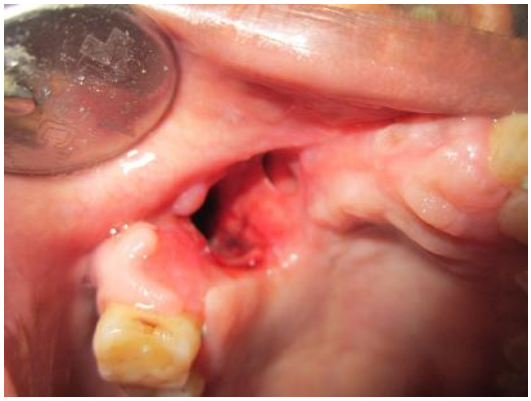

Fig 6 Complete Healing Of Defect

Fig 7 Special Tray With Relief Holes

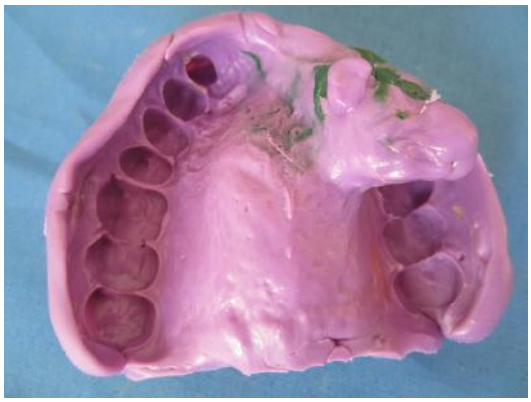

Fig 8 Border Moulding And Final Impression Made With Light Body

A class IV type of defect was created following maxillectomy crossing the midline. Hence four pin head clasps were fabricated between the premolars and molars on one side and an Adam's clasp was fabricated on the second molar on the other side. An Immediate obturator was fabricated with Self Cure Acrylic resin on the cast after blocking major undercuts followed by trimming and finishing. (fig 3)

The healing was observed 24 hours after surgery and this obturator was inserted in the patient's mouth a day after

surgery after which adjustments were made (fig4 &5). Retention was obtained by the clasps from the remaining natural teeth. The patient was asked to wear this obturator for 24 hours and recalled to the department after 24 hours.

The patient was evaluated 24 hours after insertion of prosthesis and any pressure areas were relieved in the prosthesis. The patient experienced a great improvement in speech and deglutition with the obturator. Her words became much more appreciable after insertion of the obturator.

The patient was evaluated weekly for a month and then biweekly for 2 months till complete healing had occurred. (fig 6) The lesion was then evaluated for redness and healing and a fresh diagnostic impression was recorded with alginate.

Fig 9 Final Obturator Inserted

Fig 10 Extraoral Post Operative View

A Special tray was fabricated with autopolymerizing acrylic resin on the following cast and a few relief holes were drilled in the tray.(fig 7) Border moulding was performed with green stick compound. All borders around the lesion were thoroughly recorded with the green stick compound including borders in the anterior region of the defect below the upper lip. Final impression with Light body impression material was taken and a cast was poured over this impression.(fig 8) Three pinhead clasps were adapted on one side between premolars and an Adams clasp was adapted on the other side on the second molar. A denture base was fabricated after blocking any major undercut in the defect area with wax rim in the edentulous region. With bite registration material an Interocclusal record was taken in the patients mouth and the casts were articulated. Shade selection was done and teeth were placed according to the available jaw relation records.

After try-in the prosthesis was processed with heat cure acrylic resin. (fig 9) The final Obturator was finished and polished after adjustments in the mouth. The patient was asked to wear the prosthesis for 24 hours. The patient was recalled 24hours after insertion to evaluate the Final prosthesis.(fig 10)

The patient was very happy with her esthetics and acknowledged the improvement in speech as well.

DISCUSSION

Maxillofacial defects result in facial disfigurement, thus leading to psychological problems thus creating great difficulty in facing and accepting the social consequences. Basic prosthodontic principles are followed during the fabrication of an obturator prosthesis, while taking extreme care of the more resilient and unsupported tissues. The defect, in conjunction with the remaining structures, must be used to provide support, retention, and stability to the prosthesis.

The success of an obturator depends on the volume of the defect and on the remaining soft and hard palate, essential for retention, stabilisation and support to the prosthesis. Etienne *et al*. state that retention is easier to obtain in the prosthetic rehabilitation of patients with maxillectomy with dentition compared to those without. The use of precise clasps in patients with maxillectomy with remaining dentition may lead to a significant functional improvement thus also aiding in better aesthetics.

Maxillectomy leads to significant loss of function too. To re-establish functionality, adequate closure of the defect is essential to prevent the passage of air, liquid or food between the nasal and oral cavity. The weight of the obturator can act as a dislocating force, hence the prosthesis should be as light as possible.

Management of the patient, indicated for maxillectomy takes place in three basic stages: the pre-surgery stage, when the prosthodontist gathers gnatological, anatomical and functional information; immediate post-operative period, if it is not possible during surgery, to permit the dentist to set up temporary prostheses which are personalised in terms of technique and materials.

Since the extent and form of the surgical defect completes its final healing approximately one year after surgery and the oral cavity of the patient may possibly undergo radiotherapy there may be further structural remodelling and temporary palatal obturators may be required post-surgery. After 12 months starts the late post-operative period, , when clinical recovery is complete and there are no recurrences of the disease, the positioning of a definitive obturator is planned, as described in the literature.

Upheaving the patient's esthetics forms a very important part of rehabilitation of any kind specially involving a maxillofacial defect.

Rehabilitation with an obturator prosthesis is *functional, reliable/safe, easy to build* and has a *low level of invasiveness.*

CONCLUSION

Though it is difficult to improve the quality of life for a maxillectomy patient but the correct fabrication of obturators with clasps and extension into the defect enables us to achieve adequate stability with restoration of function.

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