

CLINICAL PROCEDURE

The patient was evaluated for the fabrication of a Cast partial removable partial denture prosthesis. Impressions were made and diagnostic casts were prepared. Surveying was done to assess the amount of undercuts on primary abutments and to assess the path of insertion and removal of the prosthesis. The removable partial denture includes occlusal rest seats on all remaining three molars. On first molar the occlusal rest seat was prepared on distal marginal ridge and second molar and third molar on mesial marginal ridge. The major connector was lingual bar and the minor connector supporting the occlusal rim was "meshwork" type and also "nail and bead" minor connector was incorporated to support the occlusal rim which will be replaced by denture bases with teeth at a later stage. The direct retainer planned was embrasure clasp with step back design on first and second molar whereas simple circllet clasp in third molar. After mouth preparation the impression were made using polyvinyl siloxane putty (virtual,Ivoclar vivident) and light bodied (virtual,Ivoclar vivident) impression material using putty wash / putty relining technique. Cast were poured using type IV die stone. On the master cast, surveying was done. "Planned block out/shaped block out procedure Were carried out and cast duplicated using agar (castogel,BEGO). Ethyl silicate bonded investment material (wirovest) was used to obtain a refractory cast over which wax pattern was adapted. The casting was done to obtain a metal framework, which was then tried in the patient mouth for fit, over which modelling wax was adapted to obtain an occlusal rim (Figure 3). Bite registration was recorded and articulation was done in a semiadjustable articulator. After teeth arrangement, wax trial was checked in the patient mouth (Figure 4). After try in procedure processing of denture was done using Injection moulding technique (Figure 5). Finally trimmed and polished cast partial denture was inserted in the patients mouth (Figure 6).

DISCUSSION:

Muscles of mastication generate complex mandibular movements useful in speech, swallowing, mastication. Loss of portion of mandible along with muscles of mastication has the potential to disrupt these functions and disrupts the form of lower one third of the face. Titanium reconstruction plate creates peripheral boundaries for the floor of the oral cavity and restores the form of face to certain extent.⁸⁻¹⁰ The cast partial denture restores the form and shape of the missing structures such as alveolar bone with teeth and gives the necessary labial support to the lower lip. The rest

seats were prepared to House the occlusal rest from which "Embrasure clasps" arise and provide the necessary retention to the prosthesis.¹¹ Duplication of Master cast was done after blockout procedure and refractory cast was prepared so that the master cast was preserved while the refractory cast contained the elevated platform as a result of planned blockout procedure making it easy for the technician to identify the area where the retentive arm and reciprocal arm supposed to come. The nail and bead minor connector were used to support the denture bases which had excess length as a result of complete mandible resection on left side.¹²

CONCLUSION:

When the mandible is not stabilized following resection and discontinuity defect results mandibular resection prosthesis should be provided to restore mastication within the unique movement capabilities of the residual functioning mandible. Fabrication of cast partial denture is a good treatment option in rehabilitation of patients who have undergone hemi mandibulectomy due to various reasons.

REFERENCES:-

1. Beumer J, Curtis T, Marunick MT (1996) Maxillofacial rehabilitation: Prosthodontic and surgical consideration. Ishiyaku Euro America, St. Louis, ok 184-188
2. Beumer J, Curtis T, Firtell D editors. Maxillofacial rehabilitation. St. Louis: Mosby ;1979 . p.90-169.
3. Schneider RL, Taylor TO Mandibular resection guidance prosthesis: A literature review. J Prosthet Dent 1986;55:84-6.
4. Swoope CC. Prosthetic management of resected edentulous mandible. J Prosthet Dent 1969;21:197-202 1976;36:292-7.
5. Cantor R, Curtis TA. Prosthetic management of edentulous mandibulectomy patients: part II, Clinical procedures. J Prosthet Dent 1971;25:546-55.
6. Desjardins RP. Occlusal considerations for the partial mandibulectomy patients. J Prosthet Dent 1979;41:308-15.
7. Kenneth FB. Complete denture treatment in patients with resected mandible. I Prosthet Dent 1969;21:443-7.
8. Sahin N, Hekimoglu C, Aslan Y. The fabrication of cast metal guidance flange prosthesis for a patient with segmental mandibulectomy :a clinical report. J Prosthet Dent 2005;93:217-220.
9. Rosenthal LE. The edentulous patient with jaw defects. D Clin N Am 1994;8:773-779.
10. Cantor R., Curtis T.A., Shipp, T., Beumer, J., and Vogel, B.S.: Maxillary speech prostheses for mandibular survival defects, J. PROSTHET. DENT. 22:253-260, 1969.
11. Cantor, R., and Curtis T.A.: Prosthetic Management of Edentulous Mandibulectomy patients. Part I. Anatomic, Physiologic, and Psychologic considerations, J PROSTHET. DENT. 25:446-457, 1971.
12. Robinson, J.E., and Rubright, W.C.: Use of a Guide Plane for Maintaining the Residual Fragment in Partial or Hemimandibulectomy, J. PROSTHET. DENT. 14:992-999, 1964.