

## Guiding flange prosthesis for early management of reconstructed hemi mandibulectomy - a case report

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**Abstract:** Ameloblastoma is a locally aggressive tumor commonly arising from the Mandibular Surgical resection of the neoplasm is the treatment of choice<sup>1</sup>. Mandibular resection and resulting loss of mandibular continuity is inevitable in such cases. Mandibular deviation towards the defective side results in loss of masticatory function, defective control of salivary secretions and disfigurement of face. Mandibular Guiding prosthesis helps the patient to achieve normal occlusion of teeth<sup>2</sup>. This case report describes simple mandibular Guiding flange prosthesis for a patient with a hemi mandibulectomy defect to restore function.

**Keywords** - Guidingflange Prosthesis, Ameloblstoma, Mandibular deviation

### I. Introduction

Ameloblastoma is a commonly occurring odontogenic tumour in mandible. The treatment for ameloblastoma is the surgical resection of involved portion of mandible. As a result of this, loss of mandibular continuity causes deviation of the mandible towards the resection side, rotation of mandible inferiorly and inability of patient to stabilize the occlusion. Guidingflange prosthesis is a conventional management for the patient to achieve mediolateral position of the mandible.<sup>4</sup>

### II. Case Report

A 42year old male patient was referred to the department of prosthodontics for management after hemimandibular resection. Patient history revealed that hemimandibular resection was carried out following diagnosis of ameloblastoma in right side mandible. No reconstructive procedure during surgery.

Intraoral examination revealed thick buccal mucosa with mucosa scar formation and obliteration of alveolar ridge buccal and lingual sulcus in the region of defect. Mouth opening restricted. The mandible deviates to the resection side and rotation of mandible inferiorly. Centric occlusion does not exist. Midline shift is present when the patient in occlusion position .He is not able to close the mandible in occlusion and also not able to control dropping of saliva.

A decision was made to fabricate Guiding flange prosthesis to with wrought wire clasps and substructure and acrylic resin guide flange prosthesis ,Primary impression of maxillary and mandibular arches were obtained using perforated stainless steel impression trays with irreversible hydrocolloid . The cast were made by using type IV dental stone. The bite block was done by using modeling wax, bite registration done and mounted on a mean value articulator with type II dental plaster. Teeth selection was made on the basis of age, color and sex of the patient and wax trail was done. A 21 gauge stainless steel wire was manipulated between 33, 35 to produced retention of the denture. The Guiding prosthesis was fabricated by using acrylic resin, where the buccal flange was extended between 34 to 36 and the height extended up to buccal sulcus of the maxilla between 24 to 26.



Fig: 1 Deviation of Mandible to the defect side on opening



Fig: 2 Midline shift on static occlusion



**Fig:3 Guiding Flange Prosthesis**



**Fig: 4 Prosthesis guided in occlusion**

Guiding flange was tried in patient's mouth and the initial stability and retention was checked. The inclination of the Guiding flange was adjusted by selective trimming the teeth contacting surface and adding self cure acrylic resin. The Guiding flange surface was created intraorally to guide the mandible in a definite occlusion. The flange height was altered that it guided the Mandible from opening position to maximum intercuspation in a smooth and unhindered path. The Guiding prosthesis was delivered and post insertion instructions were given

### **III. Conclusion**

Depending upon the location and extent of the tumour in the mandible various surgical treatment modalities like marginal, segmental, hemi, subtotal or total mandibulectomy can be done. Due to loss of mandibular continuity, causes deviation towards the defect side and rotation of the mandible on the defect occurs. Vertical extension from the buccal aspects of a mandibular prosthesis extends to contact the buccal surface of the opposing maxillary arch. This extension maintains the mandible in proper mediolateral position for vertical chewing it is usually recommended to improve both facial asymmetry and masticatory

During this initial healing period early prosthodontic intervention by mandibular Guiding flange serves the purpose of managing the mandibular deviation, preventing inferior rotation of mandible and improving the masticatory efficiency.

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