

A Case Report of flexible Denture

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Abstract: Dentures are mode of treatment for replacing the missing teeth around 700 BC. Some patients find it difficult to adjust with conventional acrylic denture mainly because of rigidity of material which causes pain discomfort dis-function¹, therefore the process began towards developments of material with improved quality and the concept of flexible denture begins. Flexible denture are custom made denture that achieve less rigid design. These kind of denture are popular in those people who are uncomfortable with conventional acrylic denture. This article presents the case with flexible denture in lower anterior region with gingival recession.

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I. Introduction

A partial denture is used when one or more natural teeth remains in upper and lower jaw flexible denture are dental illustration or partial denture to replace the missing teeth & are made by injection moulding technique to improve the flexibility of prosthesis. Relining of conventional denture can also be done but is flexible denture can give better result. Some people are uncomfortable to wear conventional acrylic denture because they are rigid, irritates the gums and induces allergic reaction also they wear with time¹. These are available in the form of granules in cartridges of different sizes (Fig. 1). Small size cartridges are used for fabrication of small size flexible partial dentures and large size cartridges are used for large size removable partial dentures (RPDs) and removable flexible complete dentures. These materials are first introduced to dentistry in 1956 by the name of Valplast and Flexiplast.^{1,2} These are superpolyamides which belong to nylon family which has inherent property of flexibility¹.

The flexibility of the prosthesis also depends on the thickness of the prosthesis which should be less than 2 mm. Hence concept of flexible denture grown up. This article shows case report of flexible denture.

A 35 year female patient Hempushpa come to our department of prosthodontics with missing 31,32,41,42 with gingival recession in same region. She wants to replace her missing teeth. Teeth loss because of caries.

The treatment option for her were implant, fixed dental prosthesis, removable partial denture. As the patient was in fear for surgical procedure of implant, implant was considered as last treatment option. The necessary supportive tissue required for fixed prosthesis was missing hence removable partial denture was considered as treatment option. Also patient was wearing conventional partial denture since 3 months but she was not happy with prosthesis. There was poor retention and stability with prosthesis, there was erythema in lingual and buccal sulcus of gingiva. Patient found the denture as bulky

So light weight esthetically pleasing flexible denture given to patient. Denture was made up of valplast material and by injection moulding technique.

II. Material And Method

Material:

Valplast material

A silicon elastomeric impression material

Type III dental stone

Method:

Prophylactic scaling polishing of remaining teeth is done. Adjacent teeth are evaluated for caries and periodontal condition. Hard tissue and soft tissue of edentulous space is evaluated.

Elastomeric impression material is used to obtain master cast which is then duplicated, wax occlusal rim is made, jaw relation is recorded and cast mounted on articulator. Teeth are selected according to patient age, sex and missing teeth. 31, 32, 41, 42 of B2 shade and smaller size are selected. T shape holes are made on back side of teeth for mechanical retention of teeth. Teeth are arranged and wax trial done to check the anterior guidance. After evaluating and making correction denture is made to fabricate by injection moulding technique. Dewaxing

is done and wax is completely removed from teeth and replaced by valplast flexible denture base material. Now sprue former is attached to make the channel for flowing of resin into the mould. Invest it in special flask design for injection moulding technique. Dewaxing is done by placing the flask in boiling water for 3 to 5 min to soften the wax, residual wax is removed by flushing the boiling water over the flask. Thin coat of separating media is applied over it then select the cartirage of sutable size and spray silicon spray on it place it in cartirage carrier which is then placed in electric cartridge furnace used for softening of flexible denture base material it will allow smooth separation of flask. The material is allow to polymerize at 550 to 560 f for 15 to 20 mins. After removing it from flask place it under compression for 3 – 5 min then bench cool it for 15- 20 min before opening. After removing the prosthesis polishing is done with pumice or its substitute mix it with water and polish it with buff then polish it with brown Tripoli it will seal the surface to resist the discoloration and staining deep it in cool water to avoid warping and scalding of surface. Finally high luster shine is achieved with polishing with polishing cake¹ .

INSERTION TECHNIQUE:

Place the denture in warm water before putting it in patients mouth so as to increase the flexibility of material this will permit very smooth initial insertion and good adaptation in patients mouth. If any discomfort because of tightness of clasp it can be loosen by placing it in hot water and bend inward to tighten. Patient is instructed to remove the prosthesis at night, clean it after every meal and keep it in warm water.

Inclusion criteria:

- 1) Soft tissue undercuts

Exclusion criteria:

- 1) vertical height less than 4mm
- 2) patients with parafunctional habits

III. Result

34 yrs year lady was successfully treated with valplast flexible denture. This material is ideal for partial denture, resin is biocompatible nylon thermoplastic wit unique physical and esthetic properties that provides unlimited design versatility and eliminates the concern about acrylic allergies. The valplast flexible partial allow the restoration to adapt to constant movement and flexibility. Flexibility, light weight, and strength provides great comfort and looks. There is no virtual visibility of clasps as material itself blend with clasp and no metal. This treatment can be indicated in patient allergic to acrylic, repeated denture breakage, alternative to implant or fixed prosthesis and presence of tori.

IV. Conclusion

It is the clinician’s skill of selection of type of restoration required for patient to get the optimum restoration. It was the chalanging case as edentulous area had compromise hard and soft tissue condition, it also had lingual undercut area. Esthetic was also concern as patient was female and she was allergic to the acrylic. Flexible denture stands superior in fullfiling various patient demand.

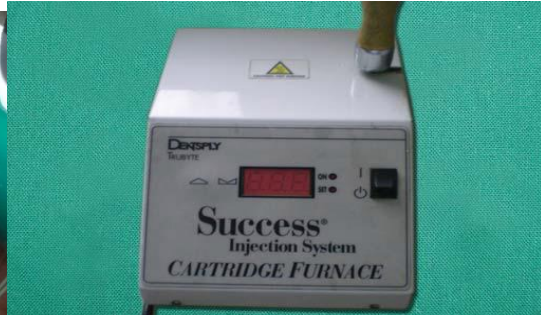


Flexible denture of lower anterior region 31 ,41

intraoral view of flexi denture fromfront side



Intraoral view of flexi denture



electric cartridge furnace



Compression unit



injection moulding flask

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