

CU-SIL Denture: Sustentation of the Remaining

¹ Dr Sukhvinder Singh Noble; ² Dr Brajendra Singh Tomar;
³ Dr Shubhra Singh; ⁴ Dr Kreeti Sargam; ⁵ Dr Karan Jarkani;
⁶ Dr Apinder Singh

¹ PG Resident, Reader, ^{2,3} Reader, ^{4,5,6} PG Resident

^{1, 2,4,5} Department of Prosthodontics, Crown & Bridge and Implantology, Rishiraj
College of dental sciences and research centre, Airport Road, Gandhi Nagar,
Bhopal

³ Department of Periodontology, Rishiraj College of Dental Sciences and
Research Centre, Airport Road, Gandhi Nagar, Bhopal

⁶ Department of Prosthodontics, Crown & Bridge and Implantology, Maharaja
Ganga Singh dental college and research centre, Ganga nagar, Rajasthan

Corresponding Author: **Dr Brajendra Singh Tomar**

Introduction:

De Van stated “the perpetual preservation of that which remains and not the meticulous replacement of that which has been lost”. The main focus of modern dentistry is on preservation of teeth, thereby conserving alveolar ridge integrity and proprioception of the periodontium. Moreover, it provides the patient with positive psychological effect by maintenance of the aesthetic appearance and masticatory function. Cu-sil denture is one such transitional denture which has provided the clinicians with an alternative treatment plan for the patients willing to replace their missing teeth while retaining their few remaining teeth.^{2,10}

Cu-sil denture is a type of complete denture with holes allowing the remaining natural teeth to emerge through the denture. The holes are surrounded by the gasket of silicone rubber which clasps the neck of natural teeth, thus allowing a natural suction to form under the denture. The fabrication of Cu-sil denture does not require any tooth preparation or any extra laboratory procedures. If in future the remaining teeth are lost, then existing denture can be modified to occupy its missing place.³

Indications of Cu-sil denture include patients who do not want to extract their remaining teeth, patients with few remaining teeth whose mucosa, supporting bone, or general health, suggests a poor prognosis for complete dentures and patients with natural maxillary teeth oppose a mandibular complete denture.⁶

Contraindications include patients with too many remaining teeth, patients with poor oral hygiene and poor plaque control and in case of those teeth with unfavorable undercuts hampering the denture fabrication and placement.⁷

Case Report:

A 56-year-old female patient reported to Department of Prosthodontics and Crown & Bridge, rishiraj college of dental sciences and research centre ,bhopal, India with the chief complaint of difficulty in eating and speaking due to teeth loss. The patient presented with only one posterior teeth remaining (45) and all other teeth were extracted in the mandibular 8 months ago. On clinical examination, it was revealed that 45 was periodontally sound and maxillary arch was partially edentulous.

Removable partial denture was planned in the maxillary arch and cusil denture in mandibular arch as the patient was not willing for any further treatment for remaining mandibular teeth.

Procedure:

- Preliminary impressions of both the arches were made using Alginate impression material and poured in type III dental stone.
- Custom trays using auto polymerizing acrylic resin were fabricated and maxillary final impression was made by pick up impression technique.
- Mandibular border moulding was done and wash impression was made using zinc oxide eugenol impression paste using irreversible hydrocolloid.
- Master casts were poured in type III dental stone.
- Jaw relations, teeth arrangement, try in procedure, flasking and processing was done in conventional manner.
- Once the dentures were finished and polished, space in the mandibular denture for remaining one teeth was widened to give clearance of 3mm. Then chairside procedure using gingival mask (gingiplast) was carried out.
- The gingiplast material was mixed and applied in the space created earlier in the denture.
- After setting of the material denture was removed and excess material was trimmed and the denture was then inserted in the patients mouth.
- The patients were given oral hygiene instructions and recalled after 3 days for followup.
- It was seen that the patients were satisfied with retention and stability of their prosthesis.

Discussion:

Achieving excellence in aesthetics and preservation of remaining structure is the ultimate purpose in preventive prosthodontics. Cu-sil denture is one such amicable option which is conservative as well as preventive as it endeavours to preserve the remaining teeth and minimize alveolar ridge resorption. Teeth act as stabilizers and prevent lateral displacement of denture. Even if retained teeth are periodontally diseased, still they may provide sufficient support for transmission of masticatory pressures and sufficient periodontal ligament receptors to initiate opening reflex.

Therefore, new set of transitional denture that is cu-sil denture are recommended in order to preserve the remaining teeth, alveolar ridge and maintain aesthetics.⁵

Cu-sil like denture is a viable treatment alternative to implant supported dentures, overdentures and full dentures. It eliminates wear, stress, torque of metal clasps. It can prolong the life of a periodontally involved tooth. It provides good seal, therefore, preventing seepage of food and fluids; provides cushioning and splinting effect of natural teeth from hard underlying denture base. It is considered as one of the economical and time saving denture that provides the patient with comfort, better fit and improved bite. In this case gingival mask was used to reline the surrounding area around the teeth to provide better seal and fit around the teeth and also to provide cushioning effect around the remaining tooth^{6,7}

A **gingival mask** is an affordable removable prosthetic device that is shaped like your natural gums. This prosthetic is suitable for people getting treatment for various gum diseases as it mimics the appearance of gum tissues, hides tissue damage, and covers your exposed tooth roots to give you a more beautiful smile.

Silicone gingival veneers are soft and pliable and made from acrylic, composite resin, **porcelain**, and silicone-based materials that can cover the exposed tooth root. The removable gingival mask is indicated: 1. To cover-exposed crown margins, exposed implant components and root surfaces and reduce the length of the clinical crown. 2. To block out the black triangles between teeth in which gingival recession has occurred. 3. To fill in the space between the crown and the soft tissue. 4. To prevent airflow through or beneath maxillary fixed restorations or through the spaces between the teeth and thus improving phonetics. 5. To provide increased lip and cheek support for those patients who require it. 6. It is also beneficial for patients with high lip lines and a gummy smile who have been treated with osseointegrated dental implants. 7. To hide the dark lines around old crowns that are often seen with patients who have experienced gingival recession. 8. It also aids the prosthodontist to design implant supported prosthesis with optimal configurations permitting easy access for oral hygiene maintenance. Several materials are available for the fabrication of gingival veneer among all these materials, Cosmesil M511 silicon gives a lifelike finish. Hence, in the present case, this material was chosen to construct gingival veneer as mentioned by Green et al.

References:

1. Varghese K. Cu-sil like dentures. Kerala Dental Journal. October 2013; Vol. 36
2. Vinayagavel, Sabarigrinathan, Gunasekar, Hema. Cusil like Denture - Case Report. Int J Health Sci Research. Feb2014 Feb;Vol.4
3. Khandelwal M, punia V. Saving one is better than none- technique for cu-sil like denture- a case report. Case reports with clinical techniques-annals and essences of dentistry. Jan – mar2011; Vol. – iii

4. Kansal G, Goyal S, Deepika. Cusil denture: A NOVEL CONSERVATIVE APPROACH. Unique journal of Medical and dental sciences. 2013
5. Rathee M. Oral rehabilitation through preventive approach: Overdenture and fenestrated denture. March, 2015; 2
6. Jain AR. Cusil Denture for patients with few remaining teeth- a case report. Int J Research Dentistry. JulAug2014; Vol 4
7. Jain JK, Prabhu CR, Zahrane MA, Esawy MS, Ajagannanavar SL, Pal KS. Cu-sil dentures- A novel approach to conserve few remaining teeth: Case reports.. J Int Oral Health. 2015 Aug; 7:138-40.
8. Walter J. A study of partial denture designs produced by an alumni group of dentists in health service practice. Eur J Prosthodont Restor Dent. 1995
9. Smith S, Heffler S, Freeland M. The next decade of health spending: A new outlook. The National Health Expenditures Projection Team. Health Aff (Millwood). 1999; 18:86-95.
10. DeVan MM. Transition from natural to artificial teeth. J Prosthet Dent. 1961; 11: 677-88.
11. Braden M, Wright P, Parker S. Soft lining materials—a review. Euro J Prosthodont Restor Dent. 1995; 3: 163-74.
12. Gagandeep K, Sangeetha G, Deepika S. Cusil denture: A novel conservative approach-A case report. Unique J Med Dent Sci. 2013; 1:56-8.

Figures:



Figure 1: Preoperative Intraoral Photograph



Figure 2: Intraoral Photograph of Mandibular Arch with Remaining Single Tooth



Figure 3: Relining Around the Remaining Tooth with Gingial Mask



Figure 4: Denture was placed inside the Patients Mouth after the Setting of Relining Material