

Cu-sil denture for patients with few remaining teeth - A case report

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ABSTRACT

Cu-sil denture is a simplified approach in the preservation of teeth thereby protecting alveolar process. The conception of tooth support for complete denture permits the dentist to assume a major role in conserving natural teeth and supporting structures. Through avoiding extractions, a positive attitude is increased among the patients. It is a newer type of transitional denture. Cu-sil denture by having elastomeric gasket, clasps the neck of natural tooth. The present case report is aimed at describing an alternative method with regard to making Cu-sil like denture using soft liners.

Keywords: Dentures, Cu-sil, silicone rubber, chronic smoker, soft liner

Introduction

De Van stated “the perpetual preservation of that which remains and not the meticulous replacement of that which has been lost.” The current dentistry is focused on the preservation of teeth, thereby preserving alveolar ridge integrity and proprioceptive ability of periodontium. It also has positive psychological effect on patient. Transitional dentures serve some of the treatment options for patients presenting with very few remaining teeth, in compromised condition. Cu-sil denture is a fairly newer type of transitional dentures is the simplest, gentlest removable partial available. It is an acrylic, tissue-bearing appliance that includes a soft elastomeric seal that clasps the neck of every natural tooth, sealing out food and fluids, and cushioning and splinting every natural tooth from the hard acrylic denture base. Cu-sil dentures require special armamentarium and material for their processing. This case report presents an alternative technique to fabricate Cu-sil like dentures.

^[1]There are a number of drawbacks associated with full dentures, and not everyone can successfully wear them.

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In many instances, false teeth are not especially useful because of retention or stability problems. For this reason, even a single healthy tooth left in place can stabilize an otherwise unstable full denture. Only recently has it become attainable to make a denture leaving a hole here and there to permit some remaining teeth to poke through while not wrecking the suction that usually holds the denture within the mouth.^[2-5]

Cu-sil denture

The Cu-sil denture has holes for natural teeth. These holes are surrounded by a gasket of stable silicone rubber. Cu-sil dentures are not the best simplest answer for individuals with numerous, evenly distributed, and stable natural teeth. They are republicised largely as “transitional” dentures.

Indications for the Cu-sil overdenture

1. Any patient with mobile, isolated, or periodontally concerned teeth whose last resort seems to be an immediate full denture.
2. A patient who does not need to lose his remaining teeth, however, cannot be adequately treated with fixed or other removable partial dentures could be a Cu-sil denture candidate.
3. A patient with a number of remaining teeth whose mucous membrane, supporting bone, or general health, suggests a poor prognosis for complete dentures.
4. When natural maxillary teeth are to oppose a mandibular complete denture.

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Advantages of Cu-sil overdentures

1. There is less time, effort and precision required in chairside and laboratory procedures. No special tooth preps or impression techniques are required.
2. Cu-sil cases require no adjustments on insertion and no post-insertion adjustments. Comfort is quickly and easily achieved on seating since tissues and acrylic tissue bearing Cu-sil partials adapt to each other more readily.
3. Vertical dimension and original bite are automatically maintained.
4. The Cu-sil denture is more affordable since endodontic therapy is not needed. Extraction costs are also reduced.
5. Previous bone loss is rejuvenated. Tissue response is exceptional. Denture stability and retention are achieved even if only one or two teeth are retained.
6. Propriosity is maintained, potential psychological impact is avoided, and less trauma is realized when patient is not rendered totally edentulous.
7. Cu-sil partial dentures eliminate clasps and preserve dentition. They stabilize, cushion and splint teeth with an elastomeric gasket that provides retention and seals out food. Stops trauma, stress, and wear to teeth caused by torque-inducing metal partials.
8. A Cu-sil denture will stabilize loose teeth, and with care, will extend their lives. It's additionally simple to replace lost natural teeth on the Cu-sil denture.

Case Report

A 50-year-old male patient reported to the Department of Prosthodontics, Saveetha Dental College and Hospital, Saveetha University, with the chief complaint of replacement of missing teeth. The patient presented with only two teeth remaining (17 and 27) and all other teeth were extracted before 1 year. 17 and 27 are periodontally sound [Figure 1a and b].

Over denture was planned in the maxillary arch and conventional complete denture in mandibular arch. The patient was advised for root canal treatment in remaining two teeth but was not willing for any other procedures other than replacement of missing teeth. Later, treatment plan was modified from maxillary overdenture to maxillary Cu-sil denture as the patient was not willing for any further treatment for remaining two teeth.

Procedure

Upper and lower impression was made with irreversible hydrocolloid impression (Alginate-Dentsply). The study cast was obtained. The special tray was using autopolymerizing resin. Border molding was done with Dental products of india (DPI) green stick compound and impression was made with light body and left in the mouth over that pickup impression was made using alginate. Secondary cast was made. Jaw relation; try in, denture processing was done in a conventional manner [Figure 2 a-c].

The denture was finished and polished. In the 17 and 27 region space was created of 4–5 mm around the tooth in which acrylic-based soft

liners (GC temporary soft liner) were placed [Figure 3]. The denture was inserted in patient's mouth and held in position. Following setting of the material, denture was removed and excess was trimmed [Figure 4a-c].

Post-insertion instructions were same as for any removable prosthesis. As there are chances of fungal growth on the soft liner material, special care was taken regarding maintenance of excellent oral and denture hygiene. The use of denture cleanser with antimicrobial agents was recommended.

Discussion

Cu-sil dentures are designed to preserve the remaining natural teeth and in turn the alveolar bone. They have impact on retention and stability of dentures. In addition, it offers the patient psychological satisfaction of retaining the natural teeth as they

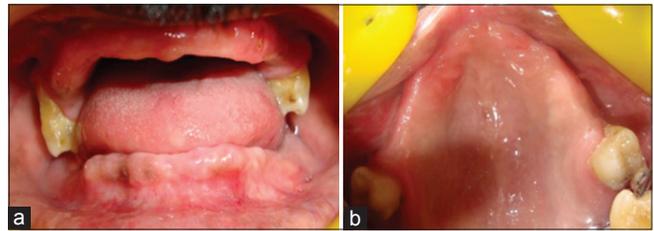


Figure 1: (a-b) Pre-operative photograph of a patient in frontal view and occlusal view



Figure 2: (a-c) Wax trial in left lateral view, right lateral view, and frontal view



Figure 3: Cu-sil denture



Figure 4: (a-c) Cu-sil denture insertion in right lateral view, left lateral view, and frontal view

were. Vertical dimension and proprioception are maintained by preserved natural teeth. In this treatment modality, there is an avoidance of attachment devices, tooth preparation and extra patient visit are not required, and special armamentarium and materials are not needed. In case of losing a tooth in the future, existing denture can be changed in order to occupy its place. They function as an answer for single standing or isolated teeth present in dental arch and they are not indicated for patients with large number of teeth evenly distributed across the dental arch. The disadvantages of these dentures are as follows: the functional duration of soft liner used is short for 3 years, it needs frequent corrections, and entire gingival margin of remaining teeth is covered leading to plaque accumulation.^[6-9]

Conclusion

Cu-sil like dentures serve as an alternative treatment for patients with very few remaining teeth. They rest on the soft tissues whereas offering a comfortable fit over existing, healthy tooth structures. An elastic gasket seals itself surrounding the cervical part of every tooth, thereby providing a stable and healthy fit. Healthy stimulation is promoted in order to maintain alveolar bone. Moreover, retention is improved, attachment devices are avoided, and vertical dimension and proprioception are maintained.

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