Clinical report

Rehabilitation of patients with Cu Sil dentures

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Abstract

Partially edentulous situations with less than optimal condition of abutment teeth and residual ridges require modification in the design of partial denture. Three partially edentulous cases rehabilitated with cusil dentures are reported.

Key words: Cu Sil denture, Partially edentulous arch

Partial designs involving extensive edentulous spans gain retention from both conventional retainers as well as by utilizing the retentive principles employed in complete dentures. When the abutments are not capable of receiving conventional retainers and when the patients are reluctant to undergo any other form of treatment, it would be desirable to include the remaining natural teeth within the outline form of the denture which is almost close to a complete denture or an extensive partial denture. The natural teeth are accommodated within the denture through perforations made in the denture base. However the denture base and the natural teeth will not maintain a seal because of the morphology and angulation of the natural teeth. The gap between the denture base and the tooth is sealed using a resilient liner and by definition such dentures are termed as Cu-sil dentures1. Three cases where Cu-sil dentures were successfully fabricated are reported here.

Case report 1

A 60 year old female patient reported to the clinic desirous of replacement of her missing teeth so as to be able to eat better(Fig 1). The patient had been partially edentulous since 3 years. The patient revealed that decayed teeth were extracted. Intraoral examination reveals Kennedy’s Class IV in the upper jaw with 17,18,27,28 as terminal abutment teeth and Kennedy’s Class I partially edentulous jaws. Cu sil denture was planned for the maxillary and cast partial denture for the mandibular. Radiograph reveals minimal bone support for the abutment teeth viz 17, 18, 27, 28 and adequate bone support for 33, 45. Primary impressions were made with alginate, primary casts were obtained. Special trays were made with self cure acrylic resin, border molding was made with putty and final impression with light body elastomeric impression material. Master casts were made(Fig 2). Altered cast technique was used to make the mandibular cast(Fig 3). Face bow transfer was done(Fig 4), centric relation registered and mounted on semiadjustable articulator(Fig 5). Teeth were arranged and trial completed(Fig 6). Maxillary denture was made with heat cured acrylic resin while mandibular cast partial denture was processed(Fig 7). The maxillary denture had windows in

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the region of abutment teeth (Fig 8). At the time of insertion, chair side acrylic based soft liner was placed around the windows and placed in the patient's mouth. At the stage of initial set of liner, the action of denture removal and insertion was initiated until the liner material final set (Fig 9a,b). The excess liner material that had flown in to the window region was remove with a sharp BP blade and the denture was finally inserted (Fig 10). The patient was comfortable at the time of insertion and follow up after a week (Fig 11, 12). After 3 months the old liner material was replaced with fresh one. At the time of one year follow up, the denture liner had stained and had to be replaced.

**Case report 2**

A 50 year old female patient reported to the clinic with the chief complaint of replacement of her missing teeth for reasons of esthetics and mastication (Fig 13). The patient has been partially edentulous since 45 days in the upper and lower jaws. The teeth were decayed and mobile so were extracted. Intraoral examination revealed Kennedy's Class I in the upper and lower jaw with 11, 21 as the only abutment teeth in the upper and 41-45 as abutments in the lower jaw. Cu sil denture was considered ideal for the maxillary denture and provisional removable acrylic partial denture for the mandibular (Fig 14-17).

**Case report 3**

This case report describes the oral rehabilitation of a six year old male child with Ectodermal dysplasia. The objective of treating this patient was to improve his appearance and enhance the clarity of his speech and maintain the health of the abutment and under developed alveolar ridge. His oral function was improved by fabricating a Cu-sil denture. The extra oral examination showed a mildly concave soft tissue profile with protuberant lips. The child exhibited typical hypohidrotic ectodermal dysplasia (HED) features with sparse and stiff hair, saddle nose, frontal bossing, indistinct vermillion border with pigmentation around the mouth. The patient presented with a hyperactive mentalis, slurred speech with diffi-
Agenesis of 51, 52, 61, 62, 54, 64, 74 was observed causing loss of vertical dimension. Due to the congenital absence of the lower anteriors the dental alveolar ridge was poorly developed. A bilateral posterior crossbite was observed. Panoramic radiograph confirmed the clinical finding of agenesis of 11 primary teeth and 14 permanent teeth in the maxilla and mandible. Those present were the upper permanent central incisors with defective enamel, all canines, second premolars and permanent molars. In addition, the lower second premolars were hypoplastic. Speech was assessed clinically by asking the child to count from 1-20 and it was found that the child had difficulty in pronouncing the numbers 6, 7, 16, 17 since they sample the s/sound. The second part of screening required the child to look at a series of pictures and produce a series of sound-in words. The results revealed that the child had difficulty in pronouncing words starting with g/th/sh/s. The patient thus exhibited signs and symptoms affecting two ectodermal organs and was diagnosed with ED. A multi-phase treatment was planned by a team consisting of a Pedodontist, Prosthodontist, Orthodontist and Speech Therapist. It was planned to rehabilitate the patient with a CuSil denture. A year later the patient had adapted well to his denture and the treatment had improved his masticatory and speech function and appearance (Fig 18-21).

Three cases where cusil dentures have been given to patients has been reported. Cusil dentures are a viable option when a patient presents with less than optimal conditions to rehabilitate them with conventional partial denture. The advantages being convertibility to a transitional complete denture and better patient compliance with absence of clasps.

References