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RESEARCH ARTICLE

CU-SIL DENTURE: CONSERVING THE REMAINING.

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Abstract

Edentulism is a major health problem that not only affects the oral functions but also the social life, day to day activities, thereby, demeaning the overall quality of life. Therefore, all preventive measures possible should be taken to preserve any remaining tooth and efforts should be directed to return an individual to an idealized state of oral being. In this article, two such case reports are discussed where special technique sensitive denture fabrication is done to conserve the remaining teeth and surrounding alveolar bone, thereby increasing patient satisfaction.

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Introduction:-

De Van stated "the perpetual preservation of that which remains and not the meticulous replacement of that which has been lost". The major focus of modern dentistry is on preservation of teeth, thereby conserving alveolar ridge integrity and proprioceptive ability 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.

Indications:-

- Need to stabilize, cushion and splint teeth.
- Periodontally involved teeth.
- Need for transitional denture where teeth are poorly distributed about the dental arch.
- Mobile, doubtful teeth.
- Need for aesthetics.
- Eliminate extractions.
- Not enough undercuts for clasps.
- Single or isolated teeth.

Contraindications:-

- Too many teeth- results in weak prosthesis.
- Severe undercuts.
- Thick & high muscle attachments can result in displacement of partial denture.
- Bulky in anterior aesthetic region.
- Unsatisfactory in open smile
- The main disadvantage of such dentures is that it requires relining periodically if it loses its plasticity.

Case report 1:-

A 55 year old female patient reported to the department of Prosthodontics, DAV Dental College, Yamuna Nagar, with the desire of replacement of her missing teeth in order to be able to eat better and have pleasing facial appearance. The patient had been partially edentulous since 4 years and was under depression from the traumatic experience of her dental extractions. Therefore, patient was adamant to preserve her remaining teeth. Intraoral examination revealed presence of 17,27,31,32,33,34,35,41,42,43,44,45. Thus, a cu-sil denture was planned for maxillary arch and conventional distal extension removable partial denture for the mandibular arch. (Figure 1)

Preliminary impression of maxillary and mandibular arches were made with irreversible hydrocolloid impression material and poured in type III dental stone. The casts were obtained; special tray was fabricated with wax spacer covering the edentulous ridge and double spacer covering the remaining teeth in the maxillary arch.

Border moulding was done secondary impression was recorded with zinc oxide eugenol impression paste. In the mandibular arch, pick up impression was made with alginate using perforated metallic stock tray. In maxillary special tray, double spacer was removed from the dentulous area and final impression was taken using polyvinyl siloxane light body. (Figure 2) The impressions were poured with Type IV dental stone and temporary denture bases were fabricated using autopolymerizing acrylic resin. Then, the occlusal rims were prepared and bite registration, teeth arrangement, try in procedure, flasking and dewaxing was done in routine manner. After wax elimination, separating media was applied on both parts of mould; remaining teeth were trial packed near the cervical region with permanent silicone soft liner in adequate thickness. (Figure 3 & 4) Then, freshly mixed heat cure acrylic resin was packed in the remaining mould, flask was closed and curing was done. The final denture was finished, polished and inserted in patient's mouth. (Figure 5 & 6)

Case report 2:-

A 45 year old male patient reported to the department of Prosthodontics with the chief complaint of inability to chew food due to his missing teeth. On clinical examination, it was found that 14, 15, 17 and 26 were missing in the maxillary arch. In the mandibular arch, 43, 44, 45 were the only teeth present. Moreover, generalized attrition was found in all the teeth. (Figure 7) It was planned to fabricate a partial denture for the maxillary arch and a transitional denture for the mandibular arch as the patient was not willing for extraction of his remaining teeth.

Preliminary impressions of both the arches were made using irreversible hydrocolloid and poured in type III dental stone. Custom trays using autopolymerizing acrylic resin were fabricated and maxillary final impression was made by pick up impression technique. Mandibular border moulding was done with putty and wash impression was made using addition silicone light body material followed by pick up impression using irreversible hydrocolloid. (Figure 8) Master casts were poured in type IV 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 three teeth was widened to give clearance of 4-5mm. Then chairside procedure using acrylic based soft liners was carried out. (Figure 9) The soft liner material was mixed and applied in the space created earlier in the denture and was placed in the patients mouth. After setting of the material denture was removed. (Figure 10 & 11)

The patients were given oral hygiene instructions and recalled after 6 months. 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. Total edentulism is a social stigma, as it leads to drastic changes in facial appearance of patient such as deepening of nasolabial groove, loss of labiodentals angle, narrowing of lips, increase in collumella philtral angle, ptosis of muscle. Complete dentures can restore function and aesthetics to some extent; however, continuous wearing of such prosthesis may cause residual 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.

Summary:-

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. Moreover, the material for impression making & fabrication armamentarium is easily available by the chair-side with most of the clinicians.



Figure 1:-

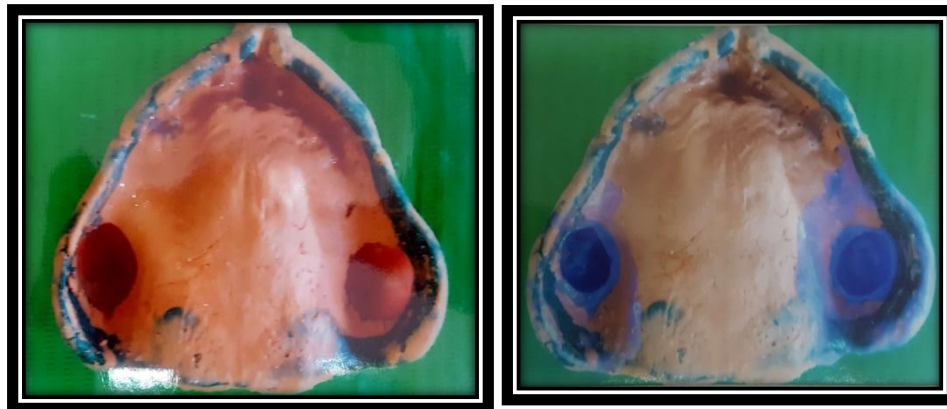


Figure 2:-



Figure 3:-



Figure 4:-



Figure 5:-



Figure 6:-



Figure 7:-



Figure 8:-



Figure 9:-



Figure 10:-

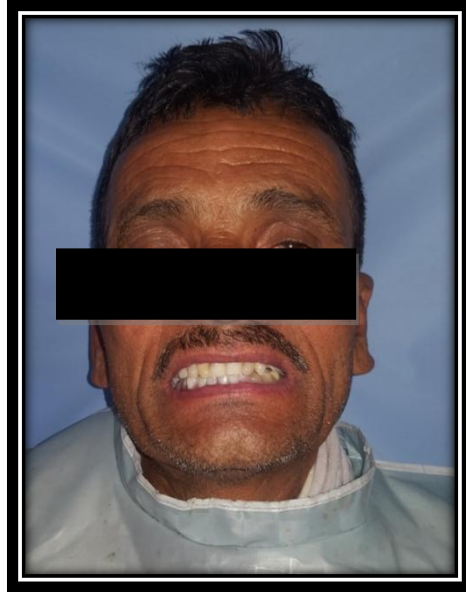


Figure 10:

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