ISSN: 0976-3031

Available Online at http://www.recentscientific.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 9(C), pp. 28826-28828, September, 2018

International Journal of Recent Scientific Research

DOI: 10.24327/IJRSR

CASE REPORT

TELESCOPIC HYBRID DENTURE PROSTHESIS WITH ANTERIOR METAL CERAMIC CROWNS– A CASE REPORT

Sushmita.V. P., Vinaya Bhat* and Chethan Hegde

Department of Prosthodontics and Crown & Bridge, A.B. Shetty Memorial Institute of Dental Sciences, NITTE Deemed to be University, Mangalore

DOI: http://dx.doi.org/10.24327/ijrsr.2018.0909.2739

ARTICLE INFO

Article History:

Received 6th June, 2018
Received in revised form 15th July, 2018
Accepted 12th August, 2018
Published online 28th September, 2018

Key Words:

Telescopic crown, primary copings, periodontal prosthesis.

ABSTRACT

This case report describes the management of periodontally compromised teeth with removable hybrid prosthesis retained by telescopic crowns. This kind of prosthesis acts as a periodontal prosthesis and provides splinting action on the remaining teeth by equally distributing the occlusal forces. It thereby help in retaining the teeth longer. In this case report a modification was made by giving anterior metal ceramic crowns to improve the aesthetics of the overdenture and simultaneously obtaining retention from the friction fit of the primary copings and the telescopic crowns. Successful long-term treatment outcome would be accompanied by a routine periodontal and prosthodontic maintenance procedures.

INTRODUCTION

While restoring patients with poor oral hygiene, it is mandatory to consider the self-cleansing ability of the prosthesis to reduce the risk of progression of disease. The use of telescopic retainers facilitates the above objective. A telescopic prosthesis can be designed to be cemented with light cement, which can satisfy a patient's need for a fixed prosthesis, but also allow for removal by a dentist to carryout prophylactic procedure to maintain hygiene.

In this case report, a patient was successfully rehabilitated with a removable telescopic hybrid denture with anterior metal ceramic bridge crowns on the anterior teeth.

Case History

Patient aged 45 years reported to the Department of Prosthodontics, A.B.Shetty Memorial Institute of Dental Sciences, Mangalore, with a desire to replace multiple missing teeth. On examination there was loss of vertical dimension with collapse of occlusion. The remaining teeth 13, 21, 22, 23, 31, 32, 33, 34, 35, 42 and 43 were periodontally compromised and with deep carious lesions. 21, 31, 32, 42 had poor prognosis and were extracted. Other teeth were endodontically treated.

After analysing the study casts mounted on an arcon articulator, it was decided to fabricate a telescopic hybrid prosthesis with metal ceramic crown for the salvaged anterior teeth.

Treatment Protocol

Fabrication of primary coping

- Following endodontic treatment, the teeth were prepared to receive the primary copings. Occlusal clearance was checked using the tentative jaw relation record. (Figure 1 tooth preparation was done and checked for adequate clearance using the tentative jaw relation).

Figure 1: tooth preparation was done and checked for adequate clearance using the tentative jaw relation

- Wax patterns for primary copings were surveyed to ensure parallelism and were casted using base metal alloy. The copings were trimmed and checked for the fit

Corresponding author:* **Vinaya Bhat
Department of Prosthodontics and Crown & Bridge, A.B. Shetty Memorial Institute of Dental Sciences, NITTE Deemed to be University, Mangalore

in the patient's mouth, following which a pickup impression was made (Figure 2a Surveying of primary copings, 2b.Tryin of primary coping, 2c Pickup impression of the primary copings, 2d Cast made from the pickup impression) and poured.

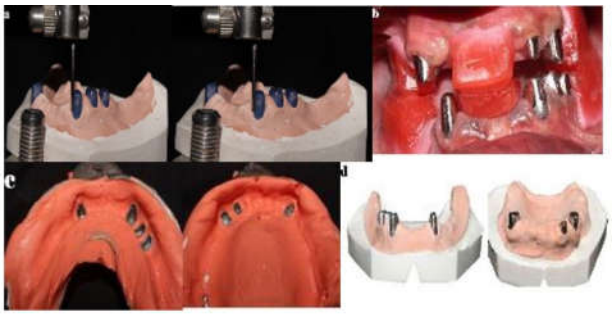

Figure 2:
a) Surveying of primary copings
b) Tryin of primary coping
c) Pickup impression of the primary copings
d) Cast made from the pickup impression

- Final milling was done using two degree tapered milling bur and the copings were cemented. (Figure 3 cemented primary copings).

Figure 3: cemented primary copings

Establishing anterior occlusal plane

- Anterior teeth were aesthetically modified and missing teeth were fabricated with wax (Figure 4 wax mock-up) on the mounted casts.

Figure 4: wax mock-up

- An index was made from this wax pattern using heavy body putty material. Later it was duplicated using tooth coloured composite resin (Protemp) to form a template. Template was trimmed, finished and polished.
- Template was then tried in the mouth to determine the anterior plane of the maxillary teeth according to aesthetics and phonetics.
- The position of the lower anterior teeth was also decided in the similar manner and a suitable anterior guidance was established based on aesthetics and phonetics. (Figure 5 Aesthetic try in).

Figure 5: Aesthetic try in

Fabrication of metal frame work

- A wax pattern for anterior metal ceramic bridge was fabricated using the template and cut back was done (Figure 6 fabrication of metal frame work and try in).

Figure 6: fabrication of metal frame work and try in

- Major connector and minor connectors were designed and casting was done.
- The metal framework was tried in the patient's mouth for its fit and aesthetics

Completion of the prosthesis

- Ceramic layering was done for both maxillary and mandibular anterior teeth. An aesthetic try in procedure was carried out. (Figure 7 Tryin of the upper framework after ceramic build up)

Figure 7: Tryin of the upper framework after ceramic build up

- Definitive jaw relations were recorded and the casts were mounted with the help of facebow transfer and centric relation record.
- Posterior teeth were arranged and try in was carried out to ensure balanced occlusion in the mouth.
- Acrylization of the posterior teeth was carried out taking precautions not to damage the anterior ceramic crowns.
- The prosthesis was trimmed, polished and inserted in the mouth (Figure 8a Completed upper and lower prosthesis, 8b& c Preop and Postop intraoral & extra oral photograph).Occlusal contacts were checked.
- Patient was kept on a standard recall regimen.

Figure 8a: Completed upper and lower prosthesis

Figure 8b: Preop and Postop intraoral photograph

Figure 8c: Preop Postop extra oral photograph

DISCUSSION

Preventive prosthodontics emphasizes the importance of any procedure that can delay or eliminate future Prosthodontic problems. Miller in 1958 stated that the maxilla and mandible were designed to house the teeth and not to support artificial denture[1]. During 1960s the concept of telescopic crown retained overdenture came into existence wherein the teeth were prepared and primary copings were given with parallel or tapered walls which will receive a secondary crown. The precisely made primary coping and secondary crown will have friction fit which will aid in retention of the prosthesis.

Telescopic crown retained removable dentures are indicated when there is presence of one third or less complement of alveolar bone, with unfavourable crown root ratio ,loss of attached gingiva, remaining teeth poorly situated/ tilted and with presence of adequate vertical dimension. The advantages include, retention of natural teeth, maintaining proprioception, distribution of occlusal force to the alveolar bone equally and reduced bone resorption. It provides good support and also aids in retention of the prosthesis. It also acts as a periodontal splint for the remaining compromised teeth[3].

However, tedious laboratory process, increased cost, bulkiness of the prosthesis, loss of retention in long run limits the use of this kind of prosthesis. And it is impossible to reline this kind of prosthesis[8].

In the present patient, the metal ceramic crowns that were given for anterior teeth help in reducing the bulk of the conventional telescopic removable partial denture. The main advantage is that, whenever the prosthesis is subjected to horizontal occlusal forces, there is dislodgement of the denture from the primary coping on the abutment. This reduces the load transfer to the abutment thereby increasing its life expectancy. Pezzoli *et al*[7] evaluated the biomechanics of load transfer in telescopic denture and found out that the occlusal load is distributed uniformly to the abutments and edentulous areas.

CONCLUSION

Successful rehabilitation using telescopic metal ceramic crown for the remaining anterior natural teeth to support and retain a posterior removable partial denture was discussed. However, long-term success would require routine periodontal and prosthodontic maintenance procedures.

References

1. Irving L.Yalisove, Joseph B. Dietz.1980, The crown and sleeve-coping prosthesis. In: Brewer AA, Morrow RM. Overdentures, 2nd edition. St. Louis: the C.V. Mosby Company; pp.175-207.
2. Hans J, Wenz, and Kalus M, Lehmann (1998): A telescopic Crown concept for the restoration of the partially edentulous Arch: the Marburg Double Crown system. *Int J Prosthodont*; 11: 541-50.
3. Hou GL, Tsai CC, Weisgold AS (1997): Periodontal and prosthetic therapy in severely advanced periodontitis by the use of the crown sleeve coping telescope denture. A longitudinal case report. *Australian dental journal*; 42:169-74.
4. Franz sebestian, Schwindling, Britta Dittmann, Peter Rammelsberg (2014): Double- Crown –retained removable dental prostheses: A retrospective study of survival and complications. *J prosthet Dent*; 112: 488-93.
5. Hakkoum MA, Wazir G (2018): Telescopic Denture. The open dentistry journal ;12: 246-54
6. Bhat VS, Prasad KD, Malli P (2015): Periodontal Prosthesis-Review. *Nitte University Journal of Health Science*.; 5:97.
7. Goswami R, Mahajan P, Siwach A, Gupta (2013): A Telescopic overdenture: Perio-prostho concern for advanced periodontitis. Contemporary clinical dentistry; 4:402.
8. Koller B, Att W, Strub JR (2011). Survival rates of teeth, implants, and double crown-retained removable dental prostheses: a systematic literature review. *International Journal of Prosthodontics*. 24:109-17.
9. Pezzoli M, Rossetto M, Calderale PM. (1986); Evaluation of load transmission by distal-extension removable partial dentures by using reflection photo elasticity. *Journal of Prosthetic Dentistry*; 56:329-37.

****