Management of Tilted Molar Abutment by Telescopic Crown: A Case Report

KEYWORDS

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ABSTRACT  
The presence of tilted teeth causes functional and esthetic problems. Management of tilted teeth can be done either orthodontically or by prosthetic means. This case report describes fixed partial denture rehabilitation using telescopic crown for a tilted mandibular third molar.

Introduction  
Tilted teeth are the angulated teeth which are out of ideal centric contact and deviated from the normal long axis. Teeth can be tilted in mesial, distal, buccal or lingual directions depending upon the cause for the same. The most common reason for tilted teeth is the adjacent and opposing edentulous space which makes the tooth to migrate. Such teeth cause food impaction, dental caries, periodontal and occlusion problems which creates unstable occlusion and improper maintenance of oral hygiene. Therefore, it is advisable to initiate treatment as soon as possible to restore arch integrity and a stable occlusion. Tilted tooth can be managed by simple recontouring, orthodontic uprighting, three-quarter crowns or telescopic crown.

Telescopic crowns are also known as a double crown, crown and sleeve coping (CSC), or as Konuskrone, a German term that describes a cone shaped design. A telescopic crown is defined as an artificial crown fabricated to fit over a coping. Each primary coping is usually fabricated parallel to the adjacent copings with an average wall taper of 6-degree angle of convergence. The copings are cemented to abutment teeth and then a fixed prosthesis as a secondary structure is fabricated and cemented over the copings. This clinical report describes the use of a telescopic fixed dental prosthesis over a metallic primary coping on a tilted third molar abutment to restore a missing mandibular second molar.

Clinical Report  
A 50 year old male patient reported with the chief complaint of replacement of a missing lower left back tooth as he had difficulty in eating food. An intraoral examination revealed a missing mandibular left second molar. The mandibular left third mandibular molar was mesially tilted. After a thorough clinical, radiographic and model analysis and discussion, it was planned to rehabilitate the missing mandibular left second molar with a telescopic crown retained fixed partial denture.

Diagnostic impressions were made with irreversible hydrocolloid (Marieflex, Septodont Healthcare India Pvt. Ltd.). Interocclusal record was registered with wax wafer. Study casts were prepared and mounted on a semi-adjustable articulator (JP 30 Articulator, Gnatus, Brazil). A diagnostic preparation was done on the study cast. Occlusion was evaluated with a diagnostic wax-up on the articulator. An index of the waxed up tooth was made using addition silicone putty material (Express™ XT Putty Soft, 3M ESPE, Germany). Conventional full crown tooth preparation was done on mandibular left third molar with a chamfer finish line. Gingival retraction was done and impression was made using addition silicone putty wash technique. (Fig 1)

Telescopic crowns were fabricated using the waxed up index. The primary metal coping was fabricated with extensions till the finish line. The coping was evaluated for fit and margins on the prepared tooth. It was then sandblasted and luted to the prepared tooth using Type I glass ionomer cement (GC Gold Label 1,GC Fuji) (Fig 2).

Figure 1. Preparation for telescopic crown on mandibular molar.

Figure 2. Primary metal coping on prepared tilted mandibular molar.

Conventional metal-ceramic crown tooth preparation was done on mandibular left first molar with a shoulder finish line. Gingival retraction was done and an over impression was made with single step addition silicone putty wash over  

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the prepared tooth and the primary coping. Interocclusal record was registered with a wax wafer. A provisional crown was fabricated using the waxed up index with self cure tooth colored acrylic resin. This model was used for the fabrication of superstructure which was a full veneer metal-ceramic fixed partial denture. (Fig 3)

Weaver[9,10] outlined a series of advantages and disadvantages of telescopic prostheses. The primary advantages include aligning abutments for the fabrication of a fixed partial denture when a tilted posterior abutment is involved, which can usually be solved by well planned tooth preparation in conjunction at times with intentional endodontic therapy. When tooth preparation alone cannot solve the problem, the mechanical solutions of the locked attachment and the telescopic retainer are available.

The mesial marginal ridge of mesially tilted third molar would have obstructed the insertion of fixed partial denture. Attaining a common path of insertion was overcome with the telescopic retainer because of its retentive, stabilizing properties. Telescopic crowns, as a double-crown prosthodontic system allow cross-stenting of the dental arch thereby facilitating tooth stabilization over the long term. The double-crown concept and the intrinsic design involved ensure maximally favourable masticatory force transmission, since the latter always takes place axial to the teeth.[11,12]

**Conclusion**

The management of tilted teeth can successfully be made with the fabrication of a telescopic coping. The treatment planning options depends upon each unique situation presented. The prosthodontic rehabilitation consumes less time compared to orthodontic management. The function, periodontal health and esthetics of a missing tooth was restored adequately in this case by a three- unit fixed partial denture over a telescopic coping on a mesially tilted third molar abutment.

**REFERENCE**