



favorable outlook

Long-term results of increasing the number of abutments with implants in the reduced partially edentulous arch using prefabricated telescopic crowns

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CONGRATULATIONS FROM THE EDITORIAL OFFICE

The article has been awarded the prize for the best paper from the clinic for 2008 by the journal *Zeitschrift für Zahnärztliche Implantologie* [journal for dental implantology] (Deutscher Ärzte-Verlag, Cologne). The prize was awarded to the authors at the joint meeting of the DGI, ÖGI, SGI and IAOFR in Berlin on May 14, 2009.

DENTSPLY Friadent and the iDENTity team congratulate the authors on winning this prize. A summary of the article is given below.



1_ Tooth 23 restored with a telescopic crown must be removed. The tooth was replaced by an Ankylos implant with SynCone abutment.



2_ Placement of the SynCone gold caps on the abutments

INTRODUCTION

Many patients receive partial dentures. If teeth are lost, particularly strategically important posts, the question arises of how to solve the resulting problem. There are many different reasons that can make a complete new restoration impossible. The alternative would be to fabricate a slender hybrid prosthesis with a limited number of implants in combination with the remaining natural abutment teeth. The implants are placed to ensure even, bilateral support of the prosthesis. The prosthesis is stabilized and extended based on biomechanical principles in an attempt to prevent further tooth loss.

An implant system should meet the following requirements and enable restoration options that could enable an implant concept with an increased number of anchoring abutments:

1. Universal applicability with immediate or late implant placement
2. Maximum primary stability, even in reduced bone quality

3. Option of extending prosthetic restorations, including combining implants and natural teeth
4. Tapered implant abutments as single, primarily unsplinted retentive components such as tapered telescopic systems
5. Economy

This paper is an investigation of the clinical application and the predictability of the long-term success rate with Ankylos with reference to the above requirements. The goal of the study was the retrospective evaluation of the clinical success rate after increasing the number of abutments with implants in reduced dentition with a prefabricated telescopic system. The clinical success rate was calculated based on the retention period of the implants and the natural abutment teeth. The repair requirements of the hybrid prosthetics was also studied.

MATERIAL AND METHOD

The data of 29 patients of a private practice were evaluated. All patients had partial dentures anchored on natural teeth in

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3_The implant was placed at the position of 23 and therefore can replace the lost anchor tooth without problems



4_The die is polymerized into the existing prosthesis



5_Increasing the number of abutments with implants allows the patient to continue wearing the existing prosthesis

the maxilla or mandible. The partial denture was extended by increasing the number of abutments with 89 Ankylos implants and the SynCone telescopic system between October 2000 and June 2005 (Fig. 1 – 7). If possible, an abutment requiring extraction was replaced by immediate implant placement with uncovered healing. If this was not possible or the distribution of abutments was statically unfavorable because of prior losses, a late implant placement using a two-session surgical protocol was used. In all cases the existing telescopic prosthetics could be used as a long-term temporary denture after implant placement. In some patients it was not necessary to replace the existing prosthetic restoration after adding implant-based abutments.

RESULTS

The average observation period was 33.2 months (minimum seven months; maximum 72 months). The success rate was 97.8 %. Over the observation period there were five cases where repairs to the prosthesis were required (17.2 %). All

cases involved a loss of copings. This damage was the result of excessive friction by the tapered abutment and SynCone coping and resulted in the secondary cap shearing off the prosthetic base.

CONCLUSION

The results show that strategic increase in abutments is a successful method for permanent retention of existing conventional prosthetics. Other positive aspects of this treatment concept are the reduction of costs and the high degree of prosthetic planning security in the event of abutment loss. This procedure can be particularly recommended in cases where the value of the natural abutments in the strongly reduced partially edentulous arch and the distribution of the remaining teeth is statically unfavorable. ■