Clinical evaluation of four implant retained overdentures with bar attachment: 2 year retrospective study

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Background: Implant-supported overdenture has become the standard option for the treatment of edentulous patients. The questions of how many implants and which type of attachment, contributes to a higher prosthetic survival rate, have been studied by several investigators. The select of attachments for implant retained overdentures should have enough retentive properties to enhance the stability of the prosthesis. Bar attachment is the appropriate alternative for more than two implants retained overdentures. As the number of implants increases, so does the probability for discrepancies in alignments and, as a result, the potential for use of angulated abutments and complex laboratory designs. Bar attachments compensates the problem of angulated inserted implant. However with the using of complex laboratory procedures, prosthesis delivery period can take longer time than expected and the occurrence of complication risk can increase.

Aim/Hypothesis: The aim of this study was to evaluate the clinical outcomes of four implant retained overdentures with bar attachment.

Material and methods: Fifty two implants (Neoss Ltd., Harrogate, UK) were placed in ten patients (seven women, three men; age range of 46–74 years, mean 60.2 years) and 13 implant retained overdentures were made with bar attachment. Follow up visits were performed 6, 12 and 24 months after delivery of overdentures. The technical outcome variables such as screw loosening, retentive matrix loosening, fracture of the acrylic base, teeth, and bar were registered. Clinical inspection was used to evaluate technical outcomes.

Results: One screw loosening and one fracture of the acrylic teeth were observed as a technical complication. Implants retained overdentures had a 100% survival rate during the 2-year follow-up. Moreover all complications were occurred in the first year.

Conclusion and clinical implications: Within the limitations of this study, it was concluded that; implant retained bar overdentures demonstrates the minimal technical complication during the 2-year follow up.