Three-year outcome of retrospective study on four implant retained overdentures with bar attachment

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**Background:** Complete dentures have been the treatment option for the edentulous patients for many years. Most patients are able to adapt well to the complete denture however some patients are not able to adapt to their dentures. Especially in more resorbed mandibular alveolar ridge, it is more difficult to wear mandibular complete dentures. Implant-retained complete overdentures offer an effective rehabilitative treatment for edentulous patients. The questions of which type of attachment, contributes to a higher prosthetic survival rate, reduced maintenance and higher patient satisfaction have been studied on clinical trials. Several attachments can be used for implant retained overdentures. Bar attachment is the one of alternative for more than 2 implants retained overdentures. Bar attachments compensates the problem of angulated inserted implant. However some disadvantages such as the using of complex laboratory procedures, longer prosthesis delivery period than expected and the occurrence of complication risks should be taken into consideration.

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

**Material and methods:** 52 implants (Neoss Ltd., Harrogate, UK) were placed in 10 patients (7 women, 3 men; age range of 46 to 74 years, mean 60.2 years) and 13 implant retained overdentures were made with bar attachment. Follow up visits were performed 6, 12, 24 and 36 months after delivery of overdenture. However one patient was dropped out from the study due to communication problems. The technical outcome variables such as screw loosening, retentive matrix loosening, fracture of the bar clip from the cast framework, fracture of the acrylic base, teeth, and bar were registered. Clinical inspection was used to evaluate technical outcomes.

**Results:** One screw loosening, one fracture of the acrylic teeth and two bar clip fracture (clip detached from the acrylic base) were observed as a technical complication. Implants had a 100% survival rate during the 3-year follow-up.

**Conclusions and clinical implications:** Within the limitations of this study, it was concluded that, implant retained bar overdentures might have potential of complication over in time.