

Glass-fibre-reinforced-composite fixed partial dentures on dental implants.

[Behr M](#), [Rosentritt M](#), [Lang R](#), [Chazot C](#), [Handel G](#).

Department of Prosthetic Dentistry, University, Regensburg D-93042, Germany.
michael.behr@klinik.uni-regensburg.de

The objective was to investigate the fracture strength and marginal fit of implant suprastructures made of fibre-reinforced composite which were fixed onto the implants using cementation or screws. A sample (n=8) of 4-unit bridges, made of the fibre-reinforced composite Vectris/Targis, were adhesively cemented onto titanium conical implant abutments. The second sample consisted of eight screwable Vectris/Targis bridges which were based on prototypes of titanium crown bases. After a 5 year simulation of thermal cycling and mechanical loading (TCML), all specimen were loaded to fracture. Marginal fit was investigated using a semiquantitative SEM analysis. The cemented 4-unit bridges showed a fracture strength of 1553 N (Q1=1498 N, Q3=1825 N) and the screw-fixed bridges had a median of 1457 N (Q1=1223 N, Q3= 1781 N). The analysis of the marginal adaptation showed similar results of cemented and screwed bridges. The bond between the Targis facing-material and the composite cement was significantly deteriorated after TCML. **CONCLUSION:** Suprastructures made of glass-fibre-reinforced composite could become an alternative to reconstructions with a metal-framework. Both, fixation onto the implants with screws or cementation, are possible.

PMID: 11737559 [PubMed - indexed for MEDLINE]