Treatment of experimental peri-implantitis using autogenous bone grafts and platelet-enriched fibrin glue in dogs.

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Abstract:

Objective: The purpose of this study was to evaluate the effects of autogenous bone grafts and platelet-enriched fibrin glue in the treatment of peri-implantitis. Study design: Thirty-six screw-type commercially pure titanium implants with rough acid-etched surfaces were inserted into 6 mongrel dogs 3 months after extraction of mandibular premolars. After 3 months of healing, peri-implantitis was induced by placing gauze and wire around the implants. Once peri-implantitis was created, surgical treatments involving a combination of autogenous bone grafts and platelet-enriched fibrin glue, autogenous bone grafts alone, or a conventional flap procedure only (control) were carried out. Six months later, biopsies of the implant sites were taken and prepared for ground sectioning and analysis. Results: The amount of reosseointegration was significantly higher in peri-implantitis defects treated with combined autogenous bone grafts and platelet-enriched fibrin glue as compared with the other 2 treatment procedures. A mean bone-to-implant contact of 50.1% was obtained in the peri-implantitis lesions treated with combined autogenous bone grafts and platelet-enriched fibrin glue. The corresponding values for the autogenous bone grafts and control groups were 19.3% and 6.5%, respectively. Conclusion: The present study demonstrates that surgical treatment involving the combined use of autogenous bone grafts and platelet-enriched fibrin glue might effectively promote reosseointegration in lesions resulting from peri-implantitis.