December 1998 (Volume 39, Number 4)

# Multi-Control Analysis of 24-Month Clinical Outcomes of Guided Tissue Regeneration of Deep Periodontal Pockets

*Ivan Bokan, Josip S. Bill1*
Dental Surgery, Verden; and 1Department of Cranio-Maxillo-Facial Surgery, Medical School, University of Würzburg, Würzburg, Germany

Aim. To evaluate clinical outcome 24 months after guided tissue regeneration (GTR) therapy of deep periodontal pockets in patients poorly responding to conventional flap surgery, to compare its efficacy with conventional flap surgery, and to analyze the factors associated with the healing outcome.
Methods. Twenty defects underwent GTR with ePTFE membranes. Clinical measurements were recorded at the baseline and at 6, 12 and 24 months after the surgery. The 24-months outcomes were compared to those in the same 20 patients previously treated with conventional flap surgery (intra-subject control), and in matched control patients who underwent conventional treatment alone.
Results. After 24 months, GTR treatment significantly reduced the probing pocket depth (dPPD=2.7±1.2 mm, $p<0.001$) and increased probing attachment level (dPAL=2.3±1.5 mm, $p<0.001$) in comparison to the previous conventional treatment. No significant difference was observed before the 24-month measurement compared to matched controls who responded well to the conventional treatment. However, 24 months after the surgery, dPAL obtained in the GTR group significantly exceeded that after conventional treatment. There was a significant association between 24-month dPAL and dPPD with the configuration and the intrabony depth of the defect, level of oral hygiene, and smoking status of the patient.
Conclusion. The efficacy of GTR is at least equal to that of conventional flap surgery. It is desirable in patients poorly responding to flap surgery alone. The gain and maintenance of clinical attachment is associated with the level of oral hygiene, smoking status, and morphology and intrabony depth of the defect.

**Key words:** dental implants; dental plaque; gingival pocket; guided tissue regeneration; oral hygiene; parodontosis; periodontal pocket; regeneration, guided tissue; smoking; surgical flaps