

SCIENCE FLASH

10-YEAR SUCCESS WITH STRAUMANN® EMDOGAIN IN INTRA-BONY DEFECTS

Scientific Source

Sculean A, Kiss A, Miliauskaitė A, Schwarz F, Arweiler NB, Hannig M. *J Clin Periodontol* 2008: Ten-year results following treatment of intra-bony defects with enamel matrix proteins and guided tissue regeneration.

Study Design

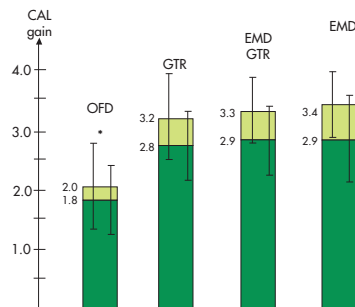
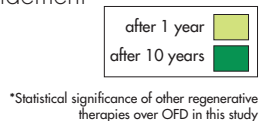
- Randomized, controlled, single center study
- Primary outcome is change in Clinical Attachment Level (CAL)
- 38 patients completed 10 year follow up (56 patients enrolled)
- Defects with probing depth of ≥ 6 mm and intra-bony component ≥ 3 mm
- 4 treatment modalities (EMD, EMD+GTR, GTR, OFD)
- Regular maintenance program (4 visits per year)

Results

EMD = Straumann® Emdogain

GTR = Guided Tissue Regeneration (membrane)

OFD = Open Flap Debridement



Study Observations

- All treatment modalities demonstrated statistical significance from baseline
- No treatment modalities demonstrated statistical significance from 1 year to 10 year follow up
- Significantly higher CAL gain with Straumann Emdogain vs OFD
- Clinical results can be maintained over 10 years
- GTR in combination with Emdogain shows no improvement over Emdogain alone.

ABSTRACT

Ten-year results following treatment of intra-bony defects with enamel matrix proteins and guided tissue regeneration.

Sculean A, Kiss A, Miliuskaite A, Schwarz F, Arweiler NB, Hannig M. J Clin Periodontol 2008; Sep; 35(9):817-24

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Background: Surgery utilizing an enamel matrix protein derivative (EMD) or guided tissue regeneration (GTR) has been shown to promote periodontal regeneration.

Aim: To evaluate the 10-year results following treatment with EMD, GTR, EMD+GTR, and open flap debridement (OFD).

Material and Methods: Thirty-eight patients out of an initial group of 56 participants were treated with one of the four modalities. Results were evaluated before surgery, at 1 year, and at 10 years. Primary outcome variable was CAL change.

Results: Treatment with EMD yielded a mean CAL gain of 3.4 ± 1.0 mm ($p < 0.001$) and 2.9 ± 1.4 mm ($p < 0.001$) at 1 and 10 years, respectively. GTR resulted in a mean CAL gain of 3.2 ± 1.4 mm ($p < 0.001$) at 1 year and 2.8 ± 1.2 mm ($p < 0.001$) at 10 years. Mean CAL gain in the EMD+GTR group was of 3.3 ± 1.1 mm ($p < 0.001$) and 2.9 ± 1.2 mm ($p < 0.001$) at 1 and 10 years, respectively. Treatment with OFD demonstrated a mean CAL gain of 2.0 ± 1.2 mm ($p < 0.01$) at 1 year and 1.8 ± 1.1 mm ($p < 0.01$) at 10 years. Compared with OFD, the three regenerative treatments resulted in statistically significant ($p < 0.05$) higher CAL gain, at both 1 and 10 years. The CAL change between 1 and 10 years did not present statistically significant differences in any of the four groups.

Conclusion: The present results indicate that the clinical outcomes obtained with all four approaches can be maintained over a period of 10 years.

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