

Growth factor regenerates tooth supporting structures: Results of a large randomized clinical trial

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It is well known that oral infection progressively destroys periodontal tissues and is the leading cause of tooth loss in adults. A major goal of periodontal treatment is regeneration of the tissues lost to periodontitis. Unfortunately, most current therapies cannot predictably promote repair of tooth-supporting defects. A variety of regenerative approaches have been used clinically using bone grafts and guiding tissue membranes with limited success.

In an article titled "FGF-2 Stimulates Periodontal Regeneration: Results of a Multicenter Randomized Clinical Trial," which is published in the International and American Associations for Dental Research's [Journal of Dental Research](#), M. Kitamura, from Osaka University Graduate School of Dentistry, Japan, and a team of researchers conducted a human clinical trial to determine the safety and effectiveness of fibroblast growth factor-2 (FGF-2) for clinical application. This is the largest study to date in the field of periodontal regenerative therapy.

A randomized, double-masked, placebo-controlled clinical trial was conducted in 253 adults afflicted with periodontitis. Periodontal surgery was performed, during which one of three different doses of FGF-2 was randomly administered to localized bone defects. Each dose of FGF-2 showed significant superiority over the standard of care (vehicle alone (p

"This study represents the largest multi-center human clinical trial using growth factor therapy to repair tooth-supporting osseous defects," said JDR Editor-in-Chief William Giannobile. "The tissue engineering technology has important ramifications in the treating of localized bone defects around teeth resulting from periodontal disease."

The abstract is published in the *Journal of Dental Research* and is available [online](#).

An accompanying editorial titled "Growth Factors and Periodontal Engineering: Where Next?" has been published. In it, author Martha Somerman, University of Washington, Seattle, states "for periodontal regeneration to continue as an attractive approach for restoring tissues lost to disease versus the choice for extraction and implant placement, we must focus our efforts on developing predictable therapies that include substantial restoration of tissues to physiological health with positive outcomes over the long term (e.g., greater than 10 years), as well as containing costs for our patients." To read this editorial, log in to the online JDR at <http://bit.ly/jdr2203>.

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