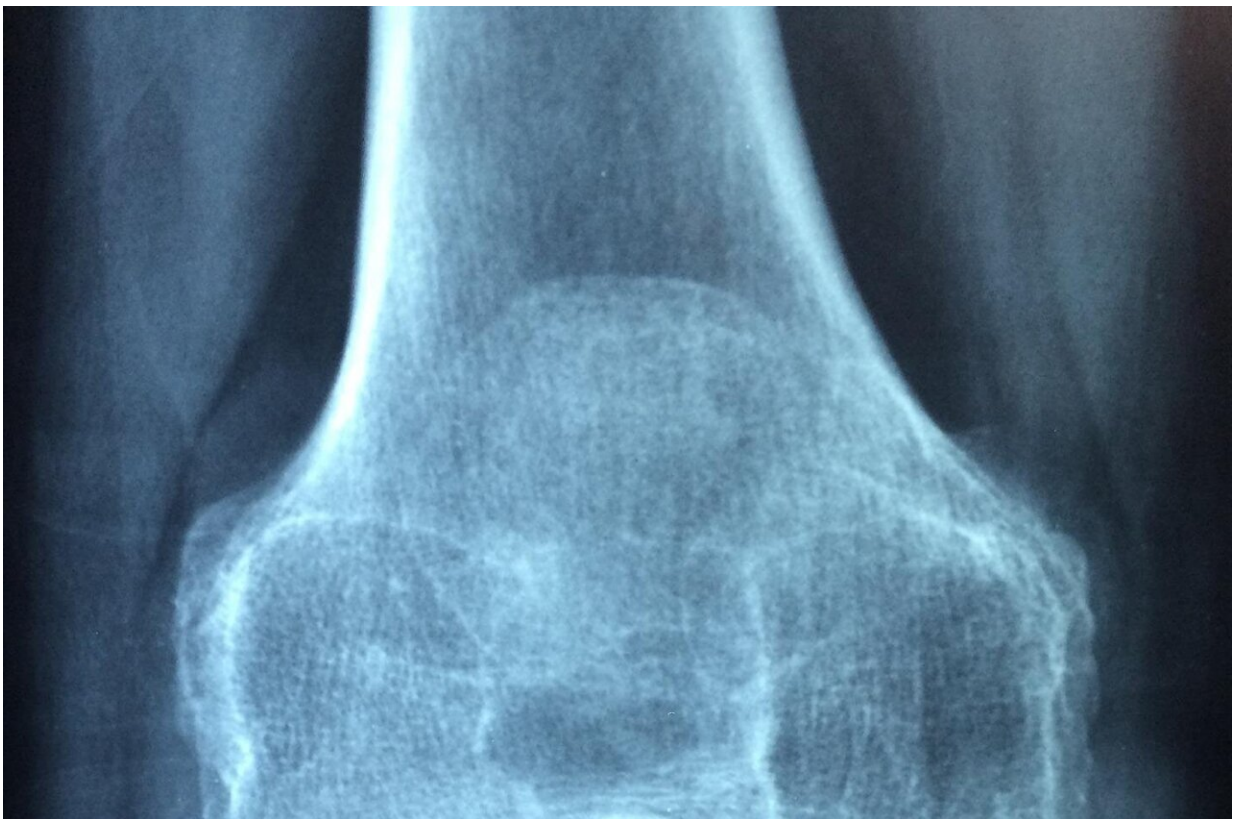


# FGF-2 found to promote periodontal healing in an osteoporosis model rat

March 19 2024

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A study investigating the effects of local application of fibroblast growth factor (FGF-2) on periodontal healing in osteoporosis model rats was presented at the 102nd General Session of the [IADR](#), which was held in conjunction with the 53rd Annual Meeting of the American Association for Dental, Oral, and Craniofacial Research and the 48th Annual Meeting of the Canadian Association for Dental Research, on March 13-16, 2024, in New Orleans, LA, U.S..

The abstract, "FGF-2 Promotes Periodontal Healing in an Osteoporosis Model Rat" was presented during the "Periodontal Treatment Effects and Implant Therapy" Poster Session that took place on Thursday, March 14, 2024 at 3:45 p.m. Central Standard Time (UTC-6).

The study, by Shinta Mori of Tokyo Dental College, Japan, assigned Wistar rats to an ovariectomy (OVX) -induced osteoporosis group or [control group](#). The control group underwent a sham operation. At eight weeks post-OVX, trabecular bone structure of the femur was analyzed to confirm the osteoporotic condition.

Subsequently, standardized periodontal defects were surgically created in maxilla. The defects in each group received FGF-2 or left untreated. At two weeks post-periodontal surgery, researchers evaluated periodontal healing through histological observations (H-E staining) and micro-CT analysis.

By analyzing of the trabecular bone structure in the femur, researchers confirmed the osteoporotic condition. In histological analysis of periodontal healing at two weeks post-surgery, FGF-2-treated defects showed a greater level of newly formed bone compared with non-treated defects, in both OVX and control groups.

At two weeks, bone volume fraction of FGF-2-treated defects (OVX ;  $16.3 \pm 5.0\%$ , control ;  $20.5 \pm 4.2\%$ ) was significantly greater than non-treated defects ( $10.2 \pm 3.6\%$ ,  $13.7 \pm 5.1\%$ ) (p

The application of FGF-2 resulted in increased bone volume fraction, trabecular number, and formation of newly formed bone in the defects of OVX and control groups at 2 weeks. Within the limitation of short-term observation, FGF-2 seems to enhance periodontal healing, even under osteoporotic condition.

Provided by International Association for Dental, Oral, and Craniofacial Research

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