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[\[PDF \(1113K\)\]](#) [\[References\]](#)**Periodontal regeneration following transplantation of proliferating tissue derived from periodontal ligament into class III furcation defects in dogs**Yoshinori MURANO¹⁾, Mikio OTA¹⁾, Akihiko KATAYAMA¹⁾, Hiroki SUGITO¹⁾,
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ABSTRACT

The aim of this study was to evaluate the healing of class III furcation defects following transplantation of proliferating tissue derived from periodontal ligament (pPDL). Two weeks after removing alveolar bone, pPDL was excised. Class III furcation defects were created in the mandibular premolars. pPDL was transplanted into the furcation defects in the experimental group, while no treatment was performed on the furcation defects in the controls. Two, four and eight weeks after surgery, histologic examination, quantitative RT-PCR, and immunohistochemistry were carried out. bFGF and VEGF mRNA showed a significant increase in pPDL. In the pPDL treatment group, new cementum regenerated around almost the entire circumference of the furcation, with new bone filling most of the defect, while the control group presented epithelial downgrowth and defects filled with connective tissue. These results provide histological evidence that pPDL plays an important role in wound healing by promoting periodontal regeneration in class III furcation defects.

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