The effect of Platelet-Rich Plasma on Wound Healing of Periodontal Tissue —Comparison of Enamel Matrix Protein—

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The purpose of the present study was to explore by weekly the effect of Platelet-Rich Plasma alone (PRP) to compare with flap operations (FOP) by using enamel matrix derivative (EMD), after experimental periodontal breakdown was induced around the 2nd premolar (P2) and 3rd premolar (P3) of lower jaw right and left of dogs. 6 beagles were used for this experiments. 1 wall osseous defects were created on the mesial aspect of P2 and distal aspect of P3. FOP group: only FOP. PRP group: applying PRP. EMD group: applying EMD (Emdogain® Gel). Compared FOP with PRP on P2, EMD with PRP on P3. Periodontal parameters, such as PPD, PAL, TM, GCF and X-ray assessments were measured on 0, 6, 8, 10 and 12 weeks after periodontal surgeries. After the experiment, histologic sections were processed and histologically analyzed.

TM and GCF were improved in PRP group than FOP group. While there were no significantly differences in all periodontal parameters between EMD group and PRP group, EMD showed remarkable gain in forming new cementum.

Our results suggest that PRP alone and EMD dose not necessarily act effectively in improvement on periodontal tissue regeneration for experimental periodontitis with 1 wall osseous defects.