R-13. Effect of tetracycline blended polylactic and polyglycolic acid membrane on the healing of one wall intrabony defects in beagle dogs

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연구 배경

The hypothesis of this study is that newly developed tetracycline blended polylactic and polyglycolic acid (TC-PLGA) barrier membrane may decrease the risk of infection during membrane therapy and result in increased gain of clinical attachment. The purpose of this study was to compare the histological effects of TC-PLGA membranes and non-blended membranes (PLGA) and controls.

연구방법 및 재료

Six male beagle dogs, 18 to 24 months old and weighing about 15kg, were chosen. Animals were divided in three groups. Animals in the surgical control group were given the flap operation only. In the tetracycline blended polylactic and polyglycolic acid (TC-PLGA) membrane and non blended (PLGA) membrane groups, TC-PLGA and PLGA were used during the flap surgery, respectively.

연구결과

1) Junctional epithelium migration : A significant difference showed between the surgical control and TC-PLGA membrane group and also between membrane and TC-PLGA membrane group ($P<0.05$).
2) Cementum : Both the TC membrane group and the membrane group showed a significant difference from the control group ($P<0.05$).
3) Infrabony cementum : In both, the PLGA and the TC-PLGA group showed a significant difference from the control group ($P<0.05$). No significant difference was seen between PLGA membrane group and TC-PLGA membrane group.
4) Alveolar bone : Both the TC-PLGA membrane group and the PLGA membrane group showed a significant difference from the control group ($P<0.05$). No significant difference was seen between PLGA membrane group and TC-PLGA membrane group ($P<0.05$).

결론

The above results demonstrate the beneficial effect of TC-PLGA membranes to the preclinical one wall intrabony defects of beagle dogs. The inhibited apical migration of epithelium and the increase in new bone and new cementum suggest the potency of TC-PLGA membrnae in inducing periodontal tissue regeneration.

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