

## **R-17. Tissue Regenerative activity of Zea May L, and Magnolia cortex extract mixtures**

**Tae-II Kim\*, Chong-Pyoung Chung**

Department of Periodontology, College of Dentistry, Seoul National University

### **I. Purpose of Study**

Zea Mays L, has been known to be effective for improving periodontal health and Magnolia cortex to have effective antibacterial and antimicrobial activity against periodontal pathogens. The purpose of this study was to examine the biologic effects of Zea Mays L, and Magnolia cortex extract mixtures on healing of rat calvarial defects.

### **II. Materials & Methods**

8mm circular defects were prepared on rat calvaria during surgical procedures of 180 Sprague-Dawley rats. The ethanolic extracts of Magnolia cortex and Zea Mays L, and these two natural extract 1:1 and 2:1(Magnolia: Zea Mays L,) ratio mixtures were oral administrated by oral zondes once a day at two different dose of 0.35, 0.5g/kg body weight. Including negative control group, there were nine groups in this study and each group had 10 rats. Rats were sacrificed after 4 weeks and 6 weeks periods after surgery. New bone formations of calvaria were radiographically, histologically examined by computer - assisted histomorphometry. Each data were statistically analyzed by one-way ANOVA test.

### **III. Results**

Statistical significance existed between negative control group and the other test groups on radiographical and histological quantitative assessments. Among test groups, mixture groups showed statistical significance, especially, group of mixture ratio of 2:1(Magnolia:Zea Mays L,) at 0.5 g/kg body weight dosage were highly significant.

These results implicated that the mixture of Magnolia and Zea Mays L, at 2:1 ratio of 0.5g/kg body weight dosage should be highly effective on the wound healing of bony defected site and might have potential possibilities as a useful drug to promote periodontal tissue regeneration.