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<th><strong>Title</strong></th>
<th>Effect of DBM on the healing of intramembranous bone graft</th>
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<td><strong>Author(s)</strong></td>
<td>Deng, YM; Samman, N; Rabie, ABM</td>
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532 Expression of Osteopontin mRNA in Bone Wound Healing.

J. CHEN, F. FEHDI, R. HU, AND D. M. RANSY (Dept. of Pedodontics, Dentistry, The University of Texas Health Science Center, San Antonio, Texas, USA.)

Osteopontin is a signal integrator that modulates osteoblast and osteoclast activities in bone, dental, and mineralized connective tissues. Osteopontin is expressed in bone matrix and in osteoblasts, osteoclasts, and other cells. Previous studies have shown that OPG mRNA expression is increased in response to mechanical loading and mechanical strain.

533 Osteopontin and Bone Salivation Prominent Constituents of Sharpey’s Fibers: M.D. McEwen AND A. NANO (Laboratory for Electron Microscopy, Department of Pathology, Faculty of Dentistry, University of Montreal, Quebec, Canada.)

Osteopontin (OPN) and bone sialoprotein (BSP), two major, non-collagenous, extracellular matrix proteins bound to mineralized tissues such as bone and teeth, have been implicated in matrix mineralization and mediation of matrix mineralization. The authors have investigated the distribution of OPN and BSP in bone using immunohistochemical and ultrastructural methods.

534 Remodeling of Rat Alveolar Bone after Cessation of Bisphosphonate Treatment. T. YAYA AND T. AOBA (Dept. of Pathol., The Nippon Dental Univ., Tokyo, JAPAN.)

We previously reported that, when 1% HEPB (1-hydroxyethylidene-1,1-bisphosphonate) in drinking water was given continuously over several weeks, the periodontal ligament space of rat molars was occupied by osteoid, giving rise to ankylosis. In the present study, we aimed at investigating the fate of periodontal osteoid and the reconstruction of periodontal ligament after cessation of the HEPB treatment. Fifteen Wistar rats (about 100 g b.w.) were kept with water containing 1% HEPB for the initial 28 days and thereafter HEPB-free water for various periods (4-28 days). In control groups, the animals were given water without any bisphosphonate. The bone histomorphometry was performed throughout the entire experimental periods. Techniques used entailed histomorphometry, bone morphometry, and bone labelings with tetracycline. Remarkable findings were that once mineral deposition of the preankylosed osteoid occurred around 7 days after cessation of the HEPB administration, osteoclastic resorption became discernable 2 at the same time in the periodontal ligament. Moreover, the in vivo bisphosphonate treatment with bisphosphonate administration was then discontinued. The bisphosphonate-induced ankylosis was then reversed, with new bone formation observed in the periodontal ligament. Initially, the bone remodeling followed by the periodontal ligament with new collagen formation took place. The overall results indicate that the osteoid mineralization and the subsequent activation of osteoclasts are required for recovery of the periodontal structure disturbed by HEPB.

535 The Variation of Fluoride Levels with different methods of intake of F.


536 The Influence of Calcium Intake and Hardness of the Enamel.

P. DUGDALE* (Triskali University, Jakarta - Indonesia.)

Previous studies have shown the influence of intake calcium to the hardness of the enamel. In order to determine type of calcium, we measured the effect of various dietary calcium intake on the hardness of the enamel. Ninety six Californian White Rabbit's offerings were divided into four groups, with one group randomly designated as control. Four groups of these rabbits were fed with the following diet: group one: purified diet and calcium carbonate; group two: purified diet and calcium phosphate; group three: purified diet and calcium chloride; group four: purified diet only (as control). The rabbits were sacrificed after 14, 21, 28 and 35 days. A total of 20 rabbits were included in each group. Using the Leitz Micro-Hardness Tester. The findings of the tooth enamel hardness of rabbits fed with calcium carbonate and calcium chloride treatments were significantly higher than that of the control group. The rabbits were then divided into four groups and fed with water containing 14, 15, 16, and 17 mg of calcium and 10, 15, 20, and 25 mg sodium per liter, respectively. After four weeks of treatment, the rabbits were sacrificed and their teeth were analyzed for hardness.

537 The variation of Fluoride Levels with different methods of intake of F.

S. ANZAKA (Ministry of Health, Sri Lanka)

Tea, a beverage which is widely consumed in Sri Lanka, is shown by different methods depending on the Socio Economic status of the drinker. The F levels of the brew was measured after each method, using the Orion SA 270 pH meter.

1. The variation of fluoride levels after addition of milk was investigated using 7% tea samples. The reduction of F by milk was statistically significant (p < 0.001). This was observed in the second broth of the tea.

2. Using a larger quantity of tea leaves for the inclusion in a stronger brew, which was significantly more F. The single cup showed 1.43 ppm while the double strength had 3.6 ppm.

3. Bone tissues. The F levels of the second brew (0.26 ppm) was significantly less than that of the first (2.41 ppm).

4. The results of the second brew were analyzed at 10, 20, 25 and 30 minute intervals did not show any significant changing with time. The amount of F in the single cup was 1.43 ppm while the double strength had 3.6 ppm.

5. Sometimes the tea is brewed in the morning and the tea leaves kept and re-used for the evening brew with considerable amounts of F. This was observed by both the single and double cups.

The increases in F levels from 7.2 ppm to 9.8 ppm after 2 minutes of brewing was highly significant.

The average amount of F in the second brew of two cups of tea. The addition of milk and the use of the second infusion lowered the F content and that using a larger quantity of tea leaves and boiling the leaves produced a significant increase in fluoride.