analysis. The deflections of the prostheses at the time of the loading were also measured. In the single crown test, the cement-retained crowns transferred less stress. In two unit fixed partial denture test, there were no differences between the two different prostheses. In the two implant supported distal cantilevered prostheses, the screw-type prosthese developed more stress around the apex of both implants.

OIV-5 A Mixture of Platelet-Rich Plasma and Bovine Bone Mineral(Bio-Oss): Evaluation of Osteogenic Potential in Calvarial Defects

Eun-Jin Park

Department of Prosthodontics, Seoul Dental Hospital, Seoul, Korea

Several techniques have been described to generate new bone to fill the gap between the bone defects in implant dentistry. It is important that the bone graft or bone substitute results in a bone volume and hardness sufficient for implant function prior to second surgery. Furthermore, increasing the rate of bone formation, it is possible to shorten the total treatment period.

Platelet-rich plasma(PRP) is an autologous source of cytokines(platelet derived growth factor and transforming growth factors etc.) involved in bone regeneration. Marx introduced that adding platelet rich plasma to autogeneous cancellous marrow graft increased the rate of bone formation and enhanced the density of the new bone.

The purpose of this study is to evaluate the osteoinductive or osteoconductive potential of the mixture of platelet-rich plasma and natural cancellous bovine bone mineral(Bio-Oss®) in the bony defects.

In adult rabbits, round segment of calvarial bone was excised to produce defects greater than the critical size defect for spontaneous bone repair(16mm). One group received natural cancellous bovine bone mineral (Bio-Oss®) without added autologous PRP. In the second group, the bony gap was filled with PRP added into the bovine bone mineral (Bio-Oss®) and applied topically after the mixture into the defects. The author examined the fluorochrome labeled specimen, measured the bone mineral dentistry(BMD), and assessed the hardness of the bone newly formed at 4 and 8 weeks.

OIV-6 Effects of Bone Engagement Types & Length of Implant Body on Stress Distribution by Using 3-D FEA Method

Jeong-Hwa Choi, Jung-Suk Han, Joo-Ho Choi*

Department of Dentistry and Prosthodontics, College of Medicine, Ewha Womans University, Seoul, Korea

**Hankook Aviation University*

Finite element analysis method can be utilized to analyze stress and strain fields when complicated geometries are being considered. This method has been employed and accepted in the field of orthopedics as both an analysis and design tool. In implant dentistry this method has been used to investigate and compare the stress transfer at the implant-bone interface in various implant designs. The three dimensional implant model (Nobel Biocare) was fabricated and Ansys 5.5 finite element program was utilized as an