

interpreting tool. 6 cases of unicortical bond model(5, 7, 10, 13, 15, 16.5mm) and 3 cases of bicortical bond model (10, 13, 18mm) were used to analyze stress distribution in this study.

Following conclusion were drawn from this study.

1. Maximum stress was shown at the top of cortical bone area regardless of bone engagement types. 2. Longer the implant fixture length, less the stress on cortical bone area, however cancellous bone showed different stress distribution. 3. Bicortical engagement showed less stress accumulation when compare to unicortical case overall.

OIV-7

An Experiment Investigation between Osseointegration and Stability of Implants Used as Orthodontic Anchorage in Dogs

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Objective : The purpose of this study was to investigate osseointegration and stability of three kinds of implants used as orthodontic anchorage in dogs.

Methods : HA-coated, titanium coated, and uncoated titanium implants were inserted into each femur of two dogs. After heal period of three months, the orthodontic force of 200g was applied by means of Ni-Ti springs, which were connected to the two adjacent implants, for two months. The position change of implant was firstly measured and then caculated. The shear bond strength of the interface between implant and bone was measured with push-test. After the test the fracture surface at the interface observed with scanning electronic microscope.

Results : All implants were stable, without mobility. The highest bond strength and mature bone compactness showed at the interface between HA-coated implant and bone. The other two were found no significance in bond strength.

Conclusion : Although the bond between HA-coated implant and bone is the firmist, the osseointegration was found at the interface between all three kinds of implants and bone and no movement of them occured during the application of clinical orthodontic force.

OIV-8

Osseous Microbial Invasion Associated with a Failed Dental Implant

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Biomaterial implants not biological inert, although they are inaminate. All implants devitalized tissues are foreign bodies, and their extrusion, by inflammatory responses, macrophage activation, and cytokines cascades is programmed by evolution (1). Dental implants can be an ideal substrate for bacterial colonization and are readily infected by smaller microbial inoculi. The adherence of plaque-forming bacteria was found to be reduced more than fivefold on titanium compared with enamel (2). We present in this presentation, information regarding dental implant design-making a point that design characteristic can lead to microbial

colonization, thus causing implant failure. Tissue adjacent to the dental implant was studied using light and transmission electron microscopy and findings were consistent with microbial infection. The cause of implant-initiated infection of reviewed.

Oral Session V(AAP)

Ballroom II

OV-1

The Clinical Importance of Biologic Width and Gingival Embrasure in Restorative Dentistry

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The fact that an optimal attainment of marginal integrity is one of the most dominant factors in terms of the longevity of the clinical outcomes in restorative dentistry seems to be self-evident with a unanimous consent by clinicians. What else should be stressed for the maintenance of proper gingival health in addition to the significance of the marginal integrity?

That is thorough understanding and careful clinical application of the biologic width and the gingival embrasure. The biologic width and the gingival embrasure also play a major role in gingival esthetics and oral hygiene maintenance for successful restorative treatment.

Some unnegligible aspects related to conceptual and applied principles of the biologic width and the gingival embrasure will be presented as useful guidelines for the predictable clinical results in restorative dentistry.

OV-2

A Cement-retained Fixed Detachable Prosthesis : A Case Report.

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A mandibular bilateral cantilevered fixed detachable hybrid prosthesis retained by a resin cement was designed for a 81-year-old woman. It was supported by 4 Steri-Oss implants and opposed by a complete denture. 4 cement-type straight abutments were connected to the master cast. Mesioldistal retention grooves were made on the 2 anterior abutments after determining a path of insertion. 0.3mm spacer was coated over each abutment. A bilateral cantilevered framework was fabricated on the abutments using a Cr-Co alloy. Screw holes on the framework were made over the abutments even if it was a cement-retained prosthesis so that the abutment-framework unit could be removed by unscrewing through the holes. The framework was adjusted and fully seated on the abutments without any friction until metal-to-metal contacts were obtained at least at the distal edge of the distal abutments. The framework was opaqued after silicoated and the resin portion was processed. Both the abutments and the inside of the abutment holes of the framework were sand-blasted. Each abutment was tightened at 20 Ncm in the mouth and the prosthesis was finally cemented