

and good wear resistance, on the preload of abutment screws and the stability of coating surface after repeated closures.

**Material and methods:** Three implant assemblies in Osstem (Korea) that are US II system with external butt joint type, SS II system with 8° morse taper and GS II system with 11° morse taper. Preload was measured by compressive force between abutment and fixture, using specially designed force sensor. The stability and the alteration of coating surface were examined by comparison of the compressive force and the removable torque values during 10 consecutive trials, and the surface changes were observed. Each test was compared titanium alloy screw with tungsten carbide/carbon coating screw.

**Results:** Application of coating on implant abutment screw resulted in significant increase of compressive force in all implant systems ( $P < 0.05$ ). Coated screw showed insignificant variations in the compressive forces during 10 consecutive trials ( $P < 0.05$ ). After repeated trials, the surface layer of coated screw was maintained relatively well.

**Conclusions:** Tungsten carbide/carbon coating of implant abutment screw was effective in the increasing of preload and with favorable wear resistance.

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### Prosthetic complications on implants in private practice. A 10-year experience

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**Introduction:** Prosthetic complication data issued from private practice are scarce. This paper documents the prosthetic complications occurring over 10 years with implants loaded for at least 1 year.

**Material and methods:** Between January 1995 and December 2004, 1815 implants were placed to rehabilitate 799 patients. Mandible/maxilla implant distribution was 945/870, 69.9% were inserted in the posterior area. Rehabilitations were 571 single crowns (SC), 384 short-span bridges, six full-arch bridges and 137 overdentures (OD), distributed into 110 ball- and 27 bar-anchored prostheses. Most implants (83.4%) supported cemented prostheses. Bridge complications were abutment fracture, abutment loosening, prostheses debonding, major and minor veneer fracture. OD complications included: adjustments (re-activation of attachments and clips), foreseeable complications (attachment and clip change), unforeseeable complications (teeth, bar or prosthesis fracture).

**Results:** *Bridge and SC group:* one (0.07%) abutment fractured, 4 (0.3%) became loose. Debonding was recorded for 11 prostheses, screw loosening for 4/115 (3.5%) single crowns. Veneer fracture occurred to 47 (4.9%) bridges, most (68%) were minor. Complications were not recurrent. Complication rate was 5.4% for SC vs. 7.2% for bridges; 8.5% for single molars. It was 1.4% in the anterior region vs. 7.3% in the posterior; it was 4.5% for

screw-retained implants vs. 6.6% for cement retained. 90.5% of the fixed prostheses were complication free.

*OD group:* 62.3% of the prostheses were complication-free, ball- (62.7%) and bar-anchored (63%) were similar. Adjustments and foreseeable events were repetitive up to six times but not the unforeseeable.

**Discussion and conclusion:** No difference was found between screw- and cement-retrained bridges. In the OD group, a clustering effect was identified for the contribution of complications.

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### The retrospective study of implant-supported overdenture

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Overdentures on implants are usually the treatment of choice when only two or three implant fixtures are installed due to lack of bone or for financial reasons. The idea behind overdenture therapy in the maxilla and mandible is also to facilitate the restoration of aesthetics and phonetics as well as to ensure optimal conditions for oral hygiene and patient comfort.

This study is the retrospective study of implant-supported overdentures provided in Samsung medical center, Seoul, Korea, during 1996–2005. All patients were treated with overdenture supported by Brånemark implant system. The objective of the present retrospective study is to evaluate the implant survival rate, clinical and radiological outcome of implant-supported overdentures.

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### Implant retained obturator

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This clinical report describes the oral rehabilitation of a 72-year-old woman diagnosed with malignant melanoma. A near-total maxillectomy was performed. After resection there was a little remaining maxilla and a denture could not be supported. Four implants placed on both side of zygomatic buttresses and pterygoid plates, respectively. But the implant on the right zygomatic buttress was deeply placed and it was angulated buccally. So it was decided to sleep. The upper denture teeth were arranged to first molar according to remaining mandibular teeth. To obtain additional retention at the anterior portion of the denture, elastic reliner (Molloplast-B<sup>®</sup>, Detax GmbH & Co. KG) was used in the obturator portion. O-ring attachment is placed on a right implant. Hader bar attachment is located on the left two implants. The patient experienced the difficulty in wearing the denture, but a week later she was accustomed to wear it with ease and her satisfaction increased as she was able to have a meal. Normal chewing was possible at the incisor portion. As measuring the amount of the nasal sound by