

**Results:** 1. The sinus elevation and simultaneous implant installation was performed in 89 sinuses and 249 implants were installed. The sinus elevation and delayed implant installation was performed in 44 sinuses and 141 implants were installed. The total number of implants were 390 in 133 sinuses. The average healing period after sinus elevations was 6.1 months in delayed implant installation.

2. Only autogenous bone, autogenous bone mixing with allografts or autogenous bone mixing with xenografts were used as graft materials.

3. The average period from first surgery to second surgery was about 7.2 months.

4. Some patients complications, such as perforation of sinus membrane, swelling, infection and exposure of cover screw. Two implants were removed in the infected sinus.

5. The survival rate of implants with maxillary sinus elevation by lateral window technique was 99.5% and the success rate of implants was 95.1%.

**Conclusions:** These results indicated that the implants which were installed with maxillary sinus elevation by lateral window technique showed high survival and success rates.

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### Paradigm shift of sinus lifting: success rate of consecutive 307 implants in 137 sinuses with sinus lifting and simultaneously placement up to 5-years

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**Introduction:** When there is less than 4 mm of residual bone in posterior maxilla, two stage operation has been recommended. Recently, taper-designed implant having microthreads has been developed to gain initial stability in severely resorbed posterior maxilla. In this study, we evaluated clinical and radiographic success rate of implants installed simultaneously with sinus lifting.

**Patients and methods:** From 2003 to 2006, total 307 implants (Implantium, Dentium Co., Korea) had been placed with simultaneous sinus lifting in 137 sinus (M:F = 86:51). Same surgical protocol had been applied in all cases. Same brand implants with three different diameter (3.8 mm, 4.3 mm 4.8 mm, same length (12 mm) and Bio-Oss (Geistlich, Swiss) only graft had been performed. Second surgery was performed after 6 months and progressive loading had been applied for 2 months. Average follow-up months was 39.1 ± 11.7. Clinical and radiographic examination was performed to evaluate the success rate according to Albreksson's criteria.

**Results:** 41% of installed implants had been placed in the maxilla where the residual bone was less than 4 mm. Only one implant was removed on the day of second surgery. Six implants out of 3 patients showed 2 mm marginal bone loss. The cumulative survival rate was 99.7% and success rate was 97.4%.

**Conclusion:** With the advancement of implant design and surface treatment, one stage operation in severely resorbed

maxilla is reliable even the residual bone is less than 4 mm. One-stage surgery could reduce the total treatment time and operation.

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### Prosthetic complication on implants in private practice. A 12-year experience

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Long-term prosthetic complication data issued from private practice are rather scarce. This paper documents the prosthetic complications that occurred over a 12-year experience with implants loaded for at least 1 year.

Between 01.1995 and 12.2005, 2319 implants were placed to rehabilitate 968 patients. Mandible/maxilla implant distribution was 1174/1145, 69.9% were inserted in the posterior area. Rehabilitations included 701 single crowns (SCs), 502 short-span bridges, 9 full-arch bridges and 171 overdentures (ODs), distributed into 133 ball- and 38 bar-anchored prostheses. Most implants (81.0%) supported cemented prostheses. Fixed prosthesis (FP) complications were: abutment fracture, abutment loosening, prosthesis debonding, major-and-minor veneer fracture. OD complications included: adjustments (reactivation of attachments/clips), foreseeable (attachment/clip change) and unforeseeable complications (teeth, bar or prosthesis fracture).

**FP group:** 1(0.05%) abutment fractured, 4(0.2%) became loose. Debonding happened to 14 prostheses, screw loosening to 4 (1.8%). Veneer fracture occurred to 47 (3.8%), most (72.3%) minor. Complication rate was 4.7% for SCs vs. 4.0% for bridges; 5.7% for posterior SCs; 4.6% in the anterior region vs. 6.7% in posterior; 3.6% for screw-retained implants vs. 6.5% for cemented. 94.0% of the fixed prostheses were complication-free.

**OD group:** 66.2% of the prostheses were complication-free, ball- (66.2%) and bar-anchored (68.4%) were similar. Adjustments and foreseeable events were repetitive up to 6 times but not the unforeseeable.

**Conclusion:** FP undergo rare complications compared to ODs. Cementation of prosthesis is reliable on the long-term. In the OD group, a clustering effect contributes to complication increase.

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