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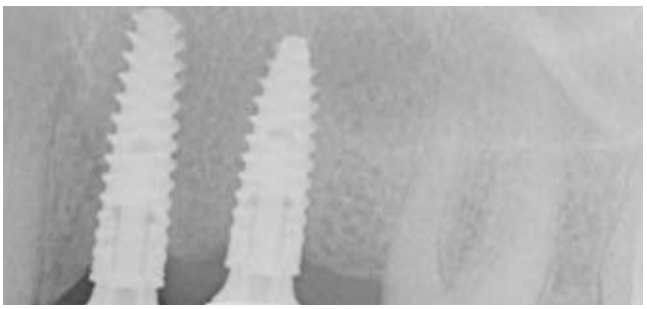
Survival and Success of MIS C1 Implants - Interim Results of a Field Study.



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Survival and Success of MIS® C1 Implants - Interim Results of a Field Study.

Horwitz J, Gabay E, Frankental S, Mayer Y, Cohen O, Ioseph L, Machtei EE.*

Background and Aim

Dental implants have become a standard therapy for partial and total edentulism[1]. Various implant designs have been studied for enhancement of survival and success as well as ease of treatment [2,3,4]. Recently, a new rough-surface implant (sand blasted and acid etched) was introduced. The implant features micro threads around the implant's neck, platform switching and a conical connection[5].

This is a prospective field study, aimed at evaluating this implant system in non-academic settings.

Aim/Hypothesis: To prospectively evaluate 1-year survival and success rates of MIS® C1 implants. To prospectively evaluate patients and surgeons' satisfaction with their implant therapy.

Methods and Materials

Patients were recruited in the private offices of seven specialist dental surgeons (periodontists). Inclusion criteria: 1. Age between 18-75 y/o. 2. Patient expresses his wish to restore the missing tooth/teeth with implant therapy. 3. Bone height at the edentulous area available for dental implants ≥ 10mm.

Exclusion criteria: 1. Medical conditions such as uncontrolled diabetes, untreated malignancies, pregnancy, and previous or current bisphosphonate therapy. 2. Untreated periodontal disease, untreated caries, and periapical pathology adjacent to the location of the prospective implant. 3. Major bone augmentation planned in conjunction with implant placement. 4. One stage immediate loading/restoration. Implants were installed using a standard surgical protocol.

All implants installed during surgery were included in the analysis. Patients were examined 7-10 days after surgery for suture removal and then after 4 weeks, 3, 6 and 12 months post-surgery. At 3-6 months interim implant success was evaluated and implants were restored. First year implant evaluation was performed at 12 months post-surgery.

Data collection included general health questionnaire, Plaque index (PI), Gingival index (GI) and probing depth (PD) at 6 Ramfjord teeth and the implant(s), and mesial and distal bone loss around implants at 1 year (ΔBoneM, ΔBoneD, respectively) measured on periapical radiographs. Patient pain perception, esthetic and functional satisfaction and surgeons' satisfaction were recorded on a visual analog scale (1-10).

Results

A total of 94 implants were performed in 45 patients (5 smokers). Mean PI, GI and PD at patients' Ramfjord teeth were 0.43±0.41, 0.37±0.37 and 2.28±0.82mm, respectively). Two implants failed in 2 patients, resulting in 98% survival rate. All remaining implants presented no evidence of peri-implant radiolucency, mobility or infection. ΔBoneM was 0.6±0.6mm, ΔBoneD was 0.5±0.5mm. One year implant success rate (Albrektsson et al. 1986) was 98%. Patient pain perception was 2.4±2, esthetic satisfaction was 9.2±0.9, functional satisfaction was 9.9±0.4 and surgeons' satisfaction was 9.6±0.6.

Conclusions

Implant therapy utilizing MIS® C1 dental implant system is an acceptable treatment modality with high survival and success rates and high patient and surgeon satisfaction rates.

References

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4. Ivanovski S. Group D. Initiator paper. Implants--peri-implant (hard and soft tissue) interactions in health and disease: the impact of explosion of implant manufacturers. J Int Acad Periodontol. 2015 Jan;17(1 Suppl):57-68.

5. MIS Technologies Ltd. C1 Dental Implant System

*Department of Periodontology, School of Graduate Dentistry, Rambam Health Care Campus and The Ruth and Bruce Rappaport Faculty of Medicine, Technion, Haifa.

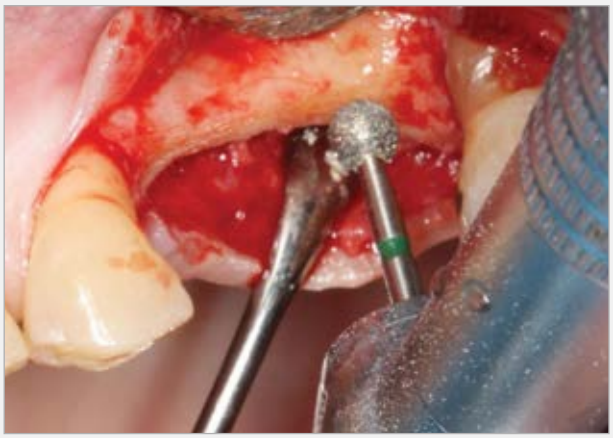

Fig. 1 Edentulous ridge preparation

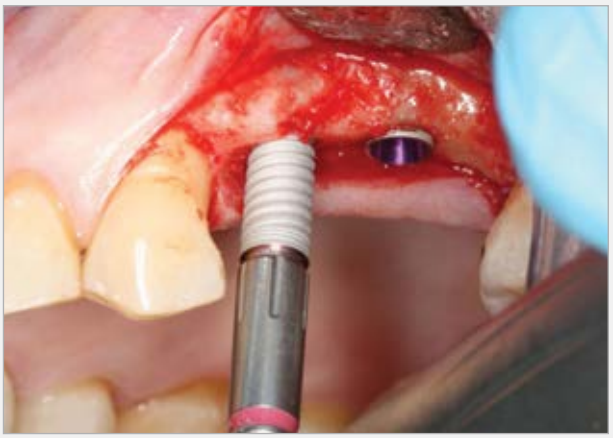

Fig. 2 Implant insertion

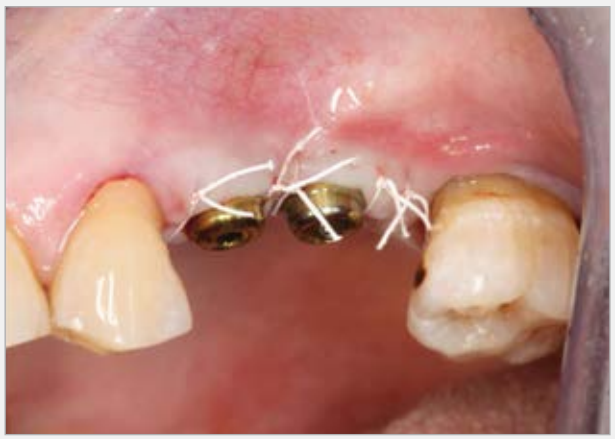

Fig. 3 Healing-abutment connection

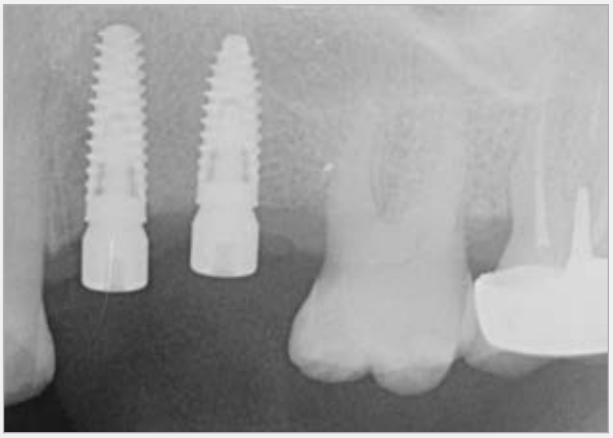

Fig. 4 Post surgical radiograph

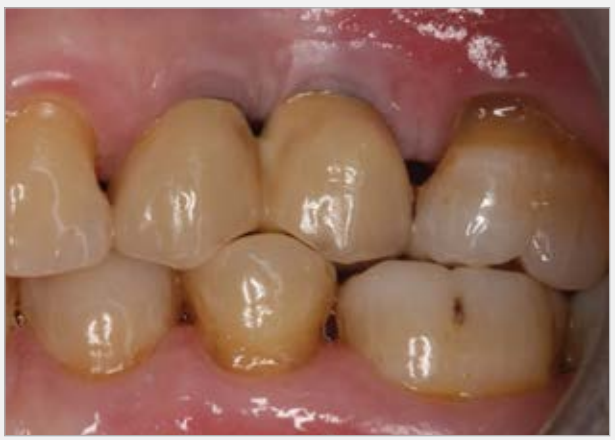

Fig. 5 1-year clinical presentation

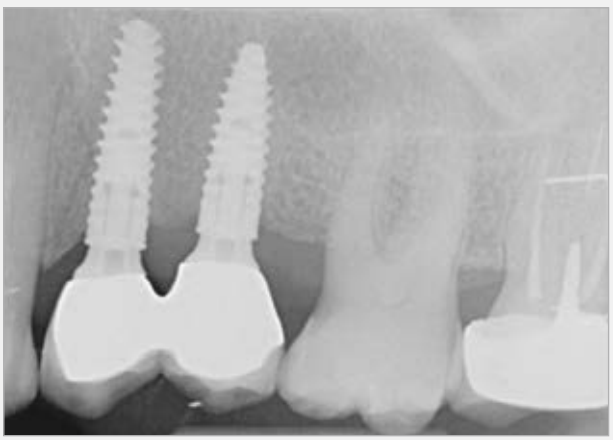

Fig. 6 1-year radiograph

The MIS Quality System complies with International Quality Standards: ISO 13485:2003 - Quality Management System for Medical Devices, ISO 9001: 2008 - Quality Management System and CE Directive for Medical Devices 93/42/EEC. MIS products are cleared for marketing in the USA and CE approved.

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