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

Dental implants have become a standard therapy for partial and total edentulism1. Various implant designs have been studied for enhancement of survival and success as well as ease of treatment2,3,4. 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 connection5. 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 (∆BoneM, ∆BoneD, 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. ∆BoneM was 0.6±0.6mm, ∆BoneD 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

5. MIS Technologies Ltd. C1 Dental Implant System.

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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

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