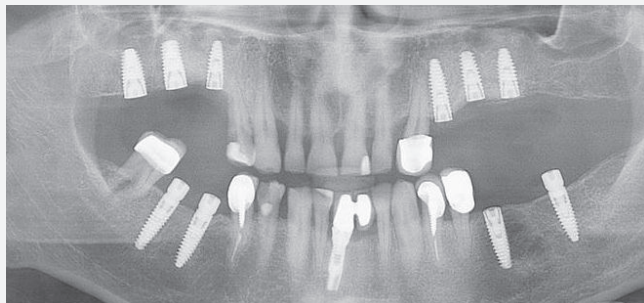


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News No. 38 August 2014

Marginal Bone Level Around
C1 Conical Connection
Tapered Implant With Platform
Switch: One Year Follow-Up.



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Marginal Bone Level Around C1 Conical Connection Tapered Implant With Platform Switch: One Year Follow-Up.

Prof. Lior Shapira¹, Dr. Kobi Ekstein¹, Dr. Moshik Tandelich¹

Background and Aim

Long-term clinical studies using different conventional implant systems, have shown a mean marginal bone loss around dental implants of 1.5 - 2 mm in the first year of service. Currently, concepts to avoid crestal bone loss around dental implants have been developed. The development of prosthetic abutments with reduced width in relation to the implant prosthetic platform (platform switching) and/or tighter implant/abutment connections (which may overcome the problem of the implant-abutment gap at the bone level), seem to have the potential of reducing crestal bone resorption. The purpose of this retrospective follow-up was to examine if crestal bone height around dental implants could be influenced using a platform switch and conical connection design, and if the bone level would remain stable during 1 year of service.

Materials and Methods

Thirty MIS C1 implants (tapered, internal conical connection with built-in platform switching) were placed in a private practice (LS). The patients were 10 men and 8 women, with a mean age of 57 years (range 35-75). Six of the patients were smokers. Nine implants were placed in the maxilla, 21 in the mandible, 13 in the anterior area and 17 in molar areas. Ten implants placed using a one-stage approach and twenty using a two-stage approach. The implants were restored with porcelain crowns three months (18) or six months (12) from the day of implantation. Mesial and distal bone height was evaluated using radiography on the day of implant placement (baseline), on the day of implant exposure (three or six months) and at one year post-implantation.

Results

None of the implants failed during 1 year of follow up, resulting in a survival rate of 100% after 1 year. Marginal bone loss from baseline to one year as measured from implant collar to bone crest was 0.7 ± 0.47 mm. No difference was found in marginal bone loss between implants placed either in a one-stage or two-stage approach.

Conclusions

This retrospective follow-up in a private clinic setting found minimal marginal bone loss and 100% implant survival rate in over a 1-year follow-up for platform switching abutment with C1 conical connection implant. The results showed higher crestal bone stability of the new design, compared to standard designs, as appears in the scientific literature.

Disclosure: The implants and prosthetic parts were kindly provided by MIS Implants. No financial support was given for this follow-up.

Case 1

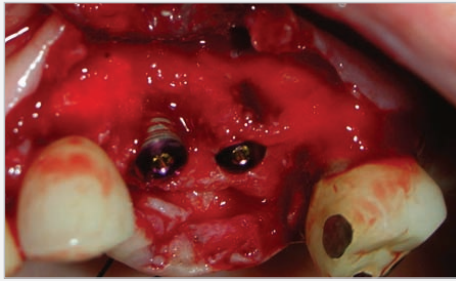


Fig. 1 C1 implants replacing teeth 24-25.

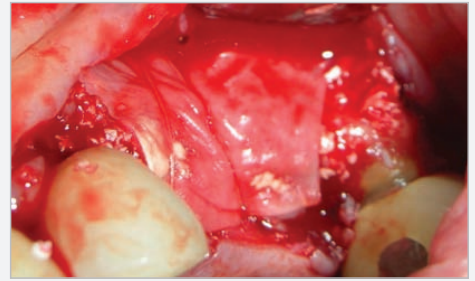


Fig. 2 Guided bone regeneration with a collagen membrane.

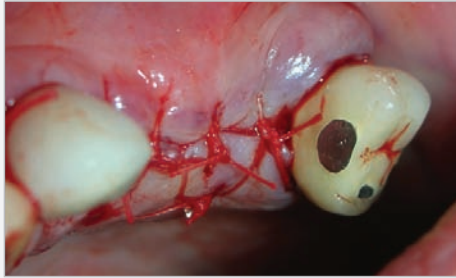


Fig. 3 Flaps are repositioned and sutured.

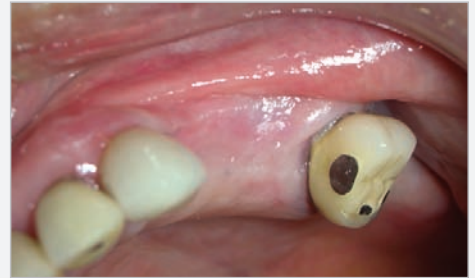


Fig. 4 4 months later - prior to stage 2 surgery - implant exposure.

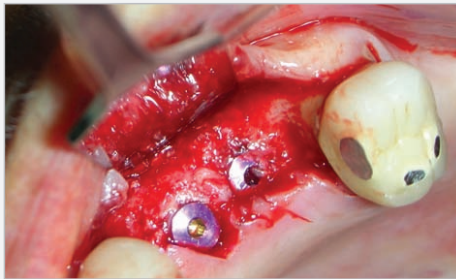


Fig. 5 Exposure of C1 implants - note new bone formation.



Fig. 6 Healing abutment and suturing.

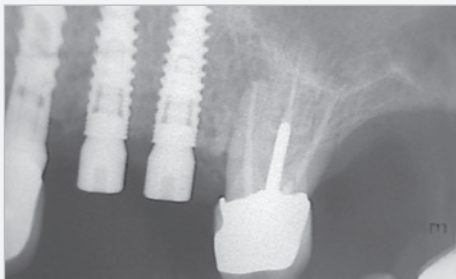


Fig. 7 Periapical X-rays - day of stage 2 surgery.



Fig. 8 Periapical X-rays - 1 year results.

Case 2

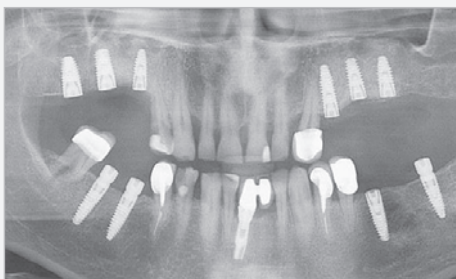


Fig. 1 Implants prior to prosthetic rehabilitation. 7 implants were placed in a 2-stage approach, due to sinus floor augmentation (crestal approach) and implant stability. 3 implants were placed in a 1-stage approach.

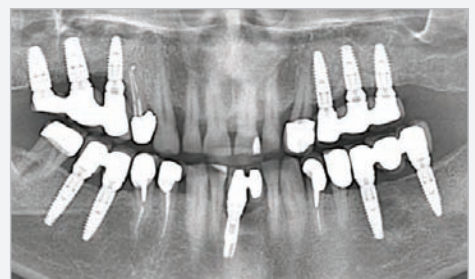


Fig. 2 1-year results.

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