

Rehabilitation of an edentulous mandible

Restoration with one-piece zirconia implants

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Case presentation

A 37-year-old patient presented suffering from aggressive periodontitis which resulted in almost total edentulism in the lower jaw (Fig. 1). For that reason, the patient asked for fixed restorations. The treatment plan involved

the extraction and grinding of the remaining teeth, the use of an autogenous dentine graft to fill up the alveolar defects and the subsequent insertion of one-piece zirconia implants (TAV Dental) utilising immediate loading. A bone-supported guide had been fabricated by means of the Simplant software to ensure optimal implant positioning (Figs. 2 & 3).

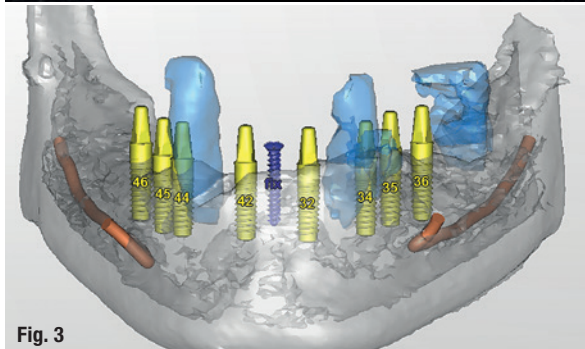
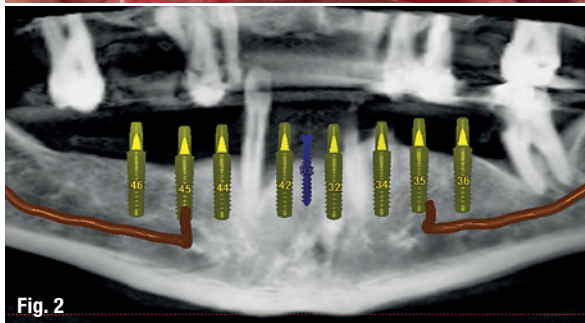


Fig. 1: Frontal view of the patient's mandible. Figs. 2 & 3: Implant positioning using the planning software Simplant.

Surgical procedure

The remaining teeth were extracted and prepared for grinding (Figs. 4 & 5). The osteotomy was prepared utilising osseodensification burs (Figs. 6–9). Eight one-piece zirconia implants (TAV Dental; 10mm in length and 4.1 mm in diameter) were placed (Figs. 10–12). The impression was taken in order to fabricate a CAD/CAM-created PMMA temporary bridge for immediate loading (Figs. 13–15). The bridge was constructed and placed in the patient's mandible within 24 hours (Figs. 16–19).

about the author



Prof. Ziv Mazor is a leading Israeli periodontist. Since 1993 Prof. Mazor is engaged in clinical research in the field of Bone Augmentation and Sinus Floor Elevation. He is a well published author on these subjects and has lectured extensively internationally. Prof. Mazor conducts and moderates advanced implant courses and workshops. He is an associate professor at the Titu Maiorescu University in Bucharest Romania and part of the faculty of NYU continuing education in Implantology.

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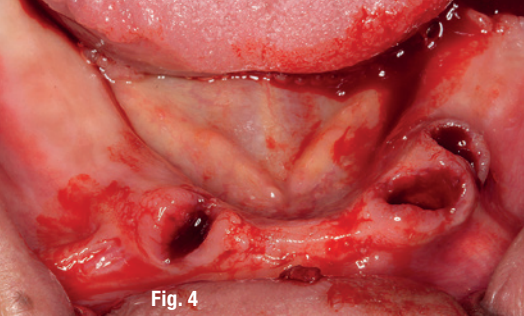


Fig. 4



Fig. 5

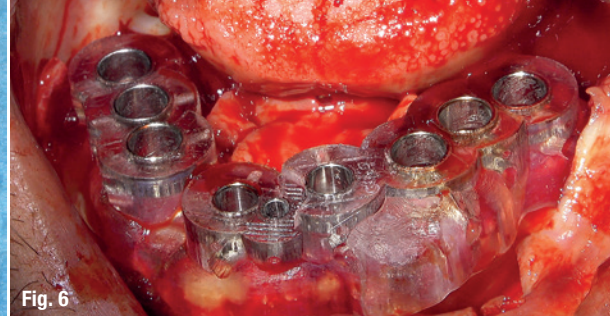


Fig. 6

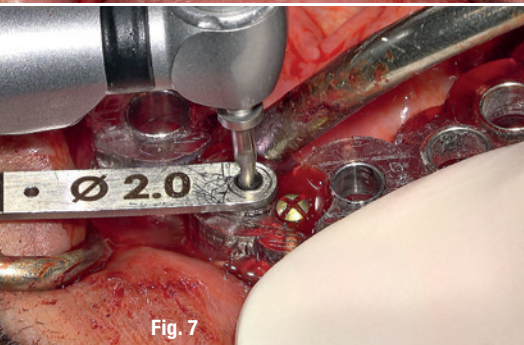


Fig. 7

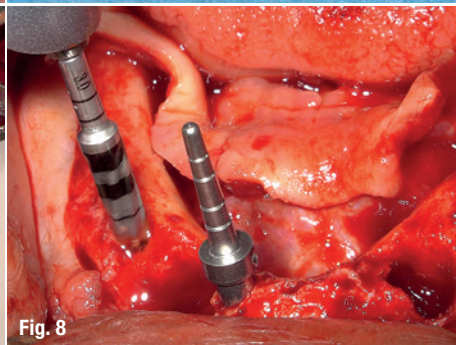


Fig. 8

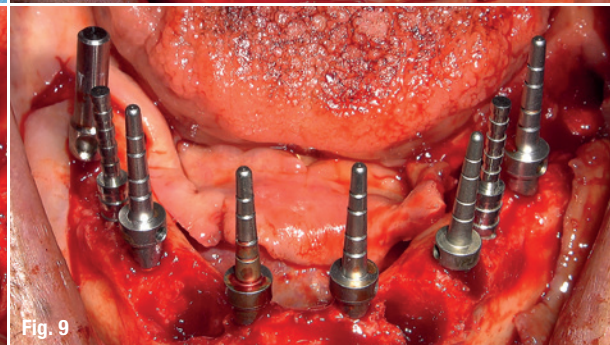


Fig. 9

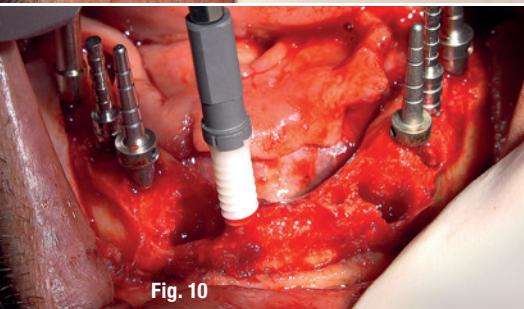


Fig. 10



Fig. 11

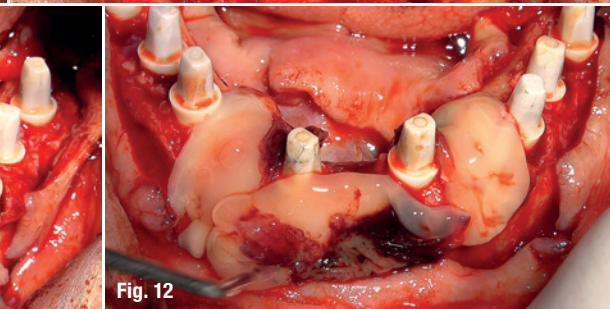


Fig. 12

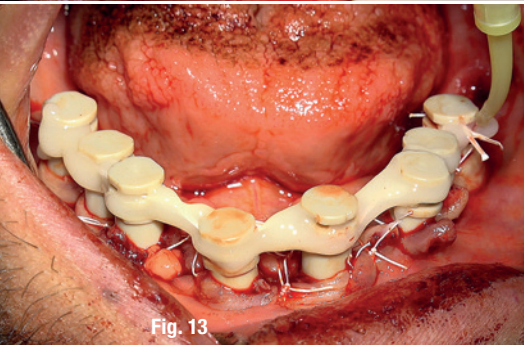


Fig. 13

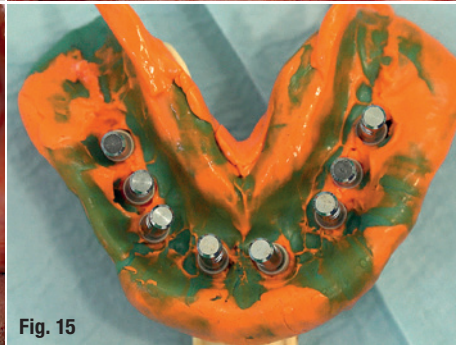


Fig. 15

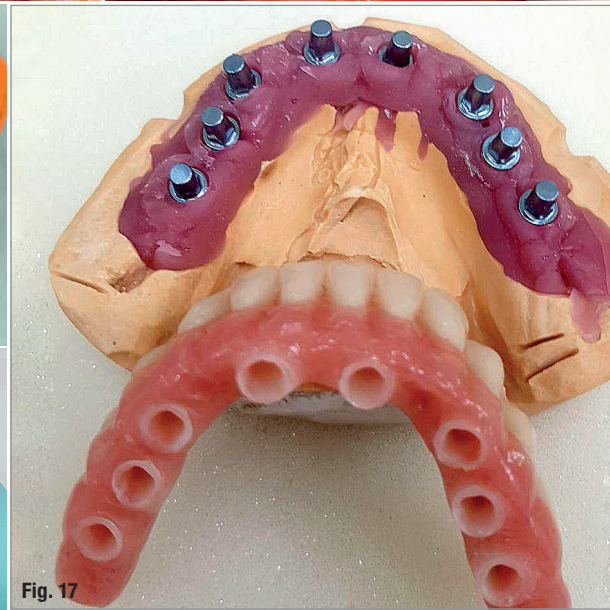


Fig. 17

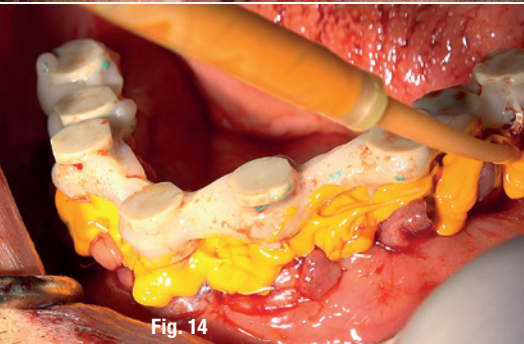


Fig. 14



Fig. 16



Fig. 18



Fig. 19

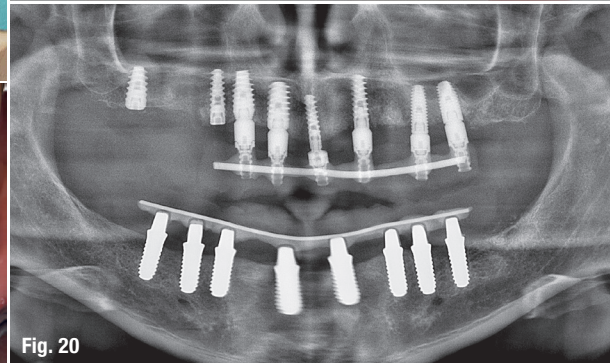


Fig. 20

Fig. 4: After extraction of the teeth. **Fig. 5:** The extracted teeth. **Figs. 6–9:** Preparation of the osteotomy site. **Figs. 10–12:** Placement of the one-piece zirconia implants (TAV Dental). **Figs. 13–15:** Taking of the impression for the temporary bridge. **Figs. 16–19:** Constructing the bridge. **Fig. 20:** Radiograph three months after the surgery.