

Rebuilding aesthetics with customised abutments on ceramic implants

A post-traumatic case

Dr Rouven Wagner, Germany

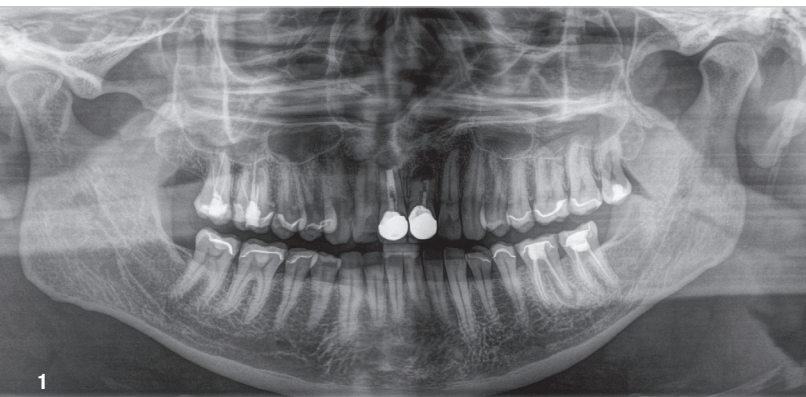


Fig. 1: Initial clinical situation in early September 2017.

Clinical problem

A 35-year-old male patient presented to the clinic of the author in 2017, suffering from constant discomfort in the highly aesthetic zone between teeth #11 and 21. He revealed that he had had an accident at the age of

23 and, as a result, had undergone root canal therapy in 2004. Additionally, he had had two root tip resections in teeth #11 and 21 at another practice, in 2012 and 2014, respectively. He came to the consultation because he was unsatisfied with the prosthetic outcome of wearing fully veneered metal crowns. Unwilling to damage his remaining healthy teeth by having a bridge placed, for instance, he was looking for a metal-free implant solution.

Clinical evidence

There is a clear trend in implant dentistry today towards a growing demand for and, as a result, clinical use of metal-free implants. These ceramic implants are aimed at achieving high aesthetic outcomes, and the clinical results with regard to osseointegration and biological reaction of the surrounding tissue are increasingly encouraging. Former limitations regarding the selection of prosthetic parts have vanished owing to the increasing indications offered by two-piece ceramic implant



Fig. 2: A flap was elevated prior to the extraction. **Figs. 3a & b:** Extraction of teeth #11 and 21. **Fig. 4:** Intra-op situation immediately after extraction. **Fig. 5:** Placement of the two two-piece CERALOG implants. **Fig. 6:** Taking digital impressions for the preparation of the individual abutments. **Fig. 7:** The implants were covered with bony chips. **Fig. 8:** The implants were sutured for covered healing.

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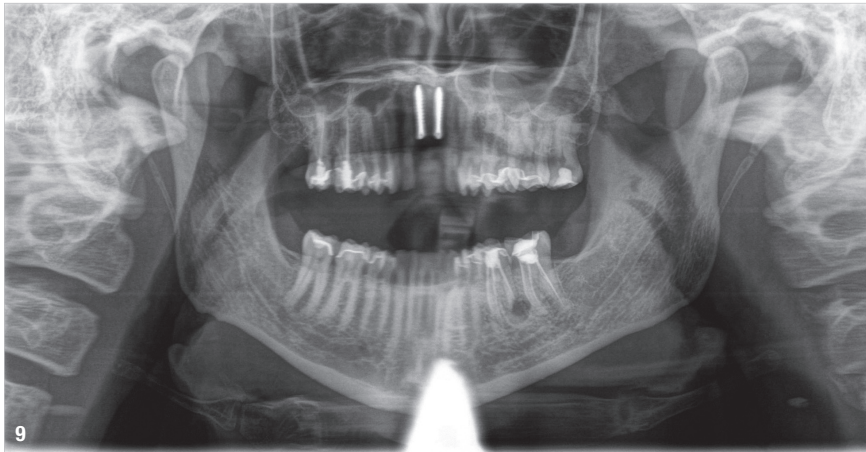


Fig. 9: Radiograph immediately after surgery.

systems such as CERALOG Hexalobe (CAMLOG), which was used in the case described in this article.

Management

Prior to the operation, an immediate implantation treatment plan using the two-piece dental implant system CERALOG was developed on the basis of radiographic imaging (Fig. 1) and 3D planning (Orthophos SL 3D, Dentsply Sirona). In a first surgical step, a flap was elevated, both teeth #11 and 21 were extracted, and extensive periapical cysts were removed (Figs. 2–4). Two implants, 12mm in length and 4mm in diameter, were then immediately inserted (Fig. 5). Afterwards, an

optical impression (CEREC Omnicam, Dentsply Sirona) was taken for the production of CAD/CAM-designed individual abutments (Fig. 6), which were planned to be seated at the implant exposure after six months. The two-piece implants were covered with bony chips gained from the posterior region of the mandible during the surgical procedure by means of a Geistlich SafeScraper TWIST (Geistlich Pharma; Fig. 7). The operation site was then sutured for covered healing of the implants (Fig. 8). In addition, a radiograph was taken immediately after surgery (Fig. 9).

The individual abutments, which had been designed and produced post-

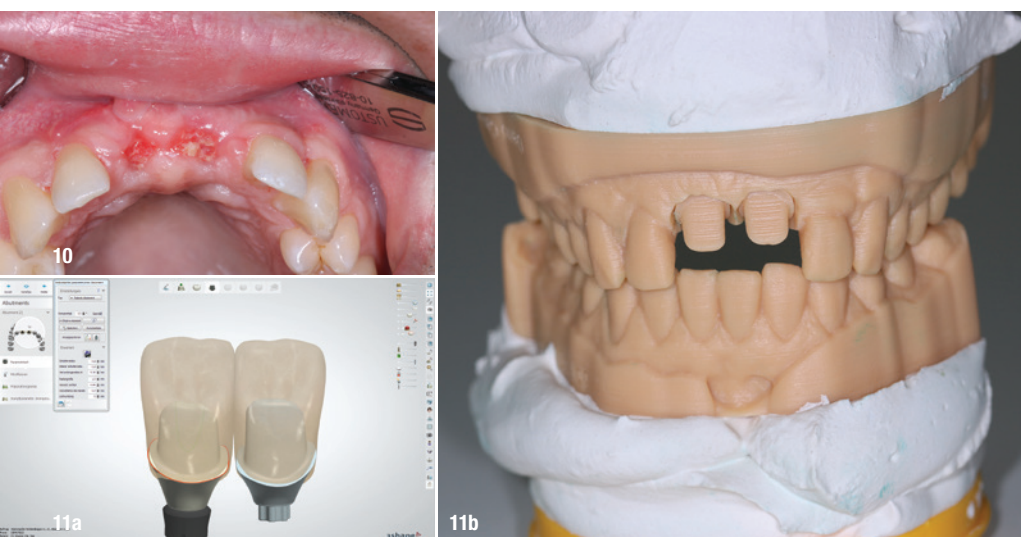


Fig. 10: Situation three months after implant insertion. **Figs. 11a & b:** Design and production of the individual abutments and crowns.



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Fig. 12: View of the exposed implants with individual abutments in place six months post-op. **Fig. 13:** View of the provisional crowns made of PMMA. **Fig. 14:** Situation at nine months post-op. **Fig. 15:** The definitive crowns made from monolithic lithium disilicate. **Figs. 16a & b:** Situation once the definitive crowns had been inserted, also at nine months.

operatively (DEDICAM Scan & Design Service, CAMLOG), were inserted during the implant exposure and directly covered with prefabricated provisional crowns (Telio CAD, Ivoclar Vivadent). At the follow-up after a healing period of three months, the provisional crowns were removed and replaced with individual IPS e.max single crowns (Ivoclar Vivadent; Figs. 10–11b). Another follow-up followed at six months, at which the individual abutments were seated (Figs. 12 & 13). At nine months postoperatively, the definitive crowns were inserted (Figs. 14–16b).

Outcome

The two-piece CERALOG Hexalobe implant system is a solid dental implant system which allows the use of highly aesthetic prostheses. Additionally, bone

augmentation procedures can be used effectively in combination with these implants while offering all the flexibility of implants made of titanium. At the follow-up in late 2019, the clinical case had shown stable biological outcomes for more than two years (Figs. 17a & b).

about the author



Dr Rouven Wagner is a Germany-based dentist who specialises in implant dentistry with a particular focus on ceramic implants. He runs a private practice together with Dr Sandra Wagner in the city of Dortmund. The clinical case described in this article was originally part of a presentation given at the 2017 congress of the European Society for Ceramic Implantology in Zurich in Switzerland and was awarded first prize in the digital poster competition.

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Figs. 17a & b: Radiographic and clinical view 18 months post-op.

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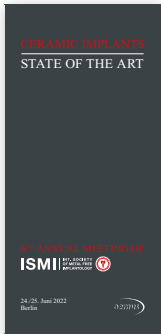


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