



Fig. 1: Initial clinical situation. **Fig. 2:** Radiograph prior to the surgery. **Fig. 3:** Frontal view of tooth gap. **Fig. 4:** Occlusal view of tooth gap. **Fig. 5:** A flap was created for easy access to surgical site. **Figs. 6a–c:** A surgical drill is used to prepare the implant bed. **Fig. 7:** The implant body of the NobelPearl ceramic system.

Single-tooth restoration with an all-ceramic implant solution

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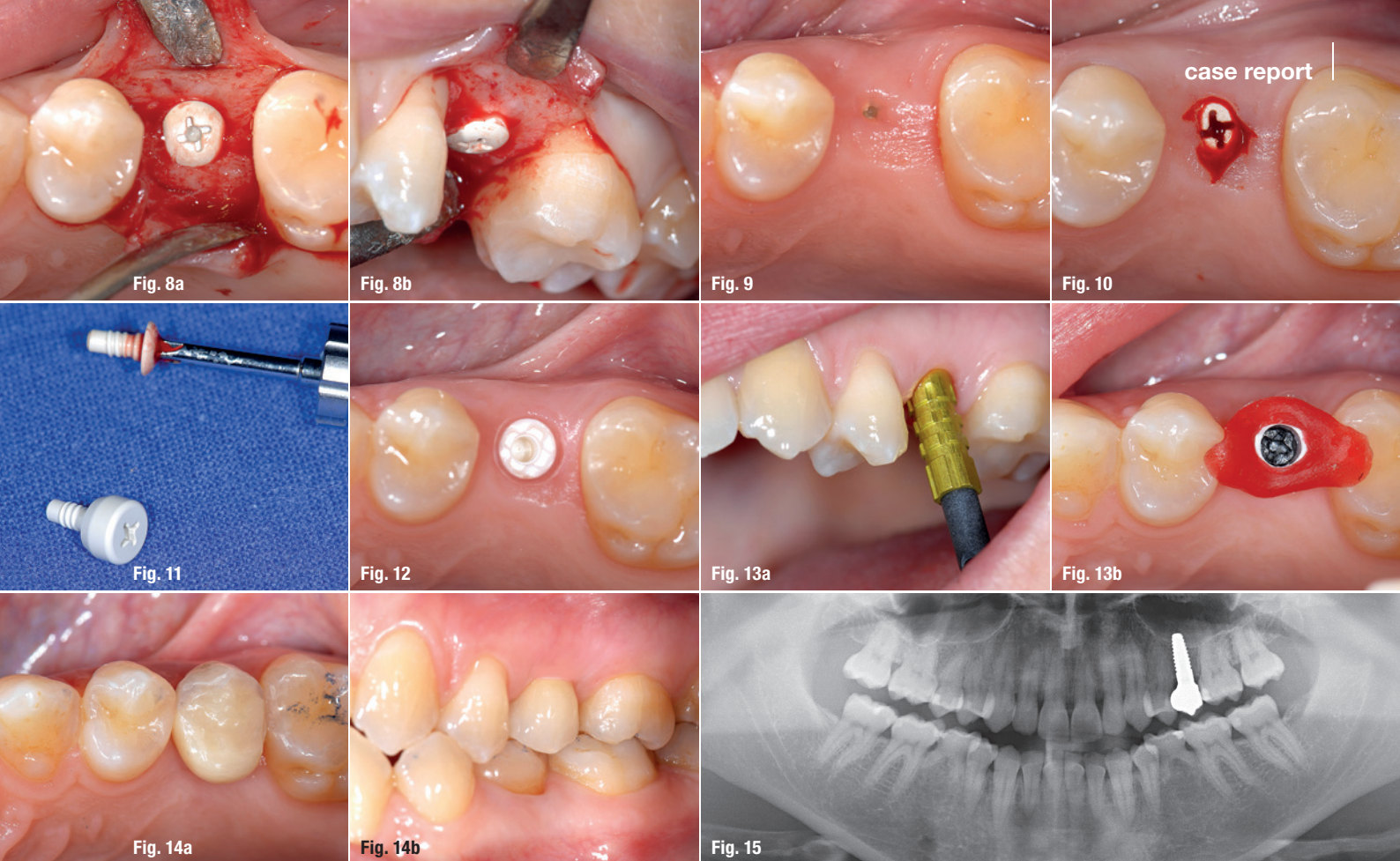
In this case report, a single tooth restoration with the NobelPearl implant system is presented in detail by Prof. Dr Michael Gahlert. NobelPearl is an all-ceramic implant solution from the Zurich-based company Nobel Biocare. It was developed in collaboration with Zeramex.

Case presentation

A 35-year-old female patient with a tooth gap (#25) came to my outpatient consultation. She wanted to be informed about single tooth restoration options in the area of tooth gap. The patient had informed herself beforehand about all-ceramic implant solutions and stated explicitly that she did not want to have a titanium implant placed. After clinical and radiographic diagnostics, the patient was informed about the possibility of an implantation with a two-part

ceramic implant. The anatomical conditions were optimal so that the implantation could be carried out without any problems. The NobelPearl ceramic implant was chosen as medical device (Nobel Biocare), as the full carbon screw guaranteed secure fixation of the abutment, as well as a complete metal-free restoration.

The postoperative healing period proceeded without complications and the definitive prosthetic restoration could be completed after a successful osseointegration period of three months. A conventional analogue impression was taken by means of an impression post that was screwed to the implant, which created the prerequisites for the all-ceramic crown. In the case presented here, the all-ceramic abutment was screw-retained and the ceramic crown cemented with glass ionomer cement (Ketac Cem, 3M). The



Figs. 8a & b: View of the healing cap after the immediate implant placement. **Fig. 9:** Occlusal view after healing period of three months. **Fig. 10:** Incision was made to gain access to healing cap. **Fig. 11:** The healing cap was removed. **Fig. 12:** Occlusal view of the implant body. **Fig. 13a:** Impression post was screwed to the implant and fixated in order to take an impression. **Fig. 13b:** The abutment was fixed with the carbon screw with a torque of only 25Ncm. **Figs. 14a & b:** The final restoration with the all-ceramic crown. **Fig. 15:** Radiograph after the surgery.

result was beautiful and highly aesthetic. There were no irritations of the gingiva and the papillary structure in the interdental space was quite pronounced.

Conclusion

The NobelPearl implant system made of high-strength alumina toughened zirconia (ATZ) represents the current state-of-the-art when it comes to two-piece ceramic implant systems with microrough surfaces. Different all-ceramic abutments can be chosen, which guarantees prosthetic flexibility. The fixing of the abutment parts with a carbon screw has been clinically tested and is, thus, safe



Fig. 16: Clinical situation after the surgery.

for use. Owing to this unique feature, NobelPearl ceramic implants allow for completely metal-free restorations and should be considered as a serious future alternative to established two-piece titanium implants.

about the author



Prof. Dr med. dent. Michael Gahlert is a fellow of the International Team for Implantology (ITI) and has been specialising on the development and placement of ceramic implants. He works as dentist for oral surgery in a private practice in Munich, Germany. In addition, he is a researcher at the department of Biomedical Engineering of the University of Basel.

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