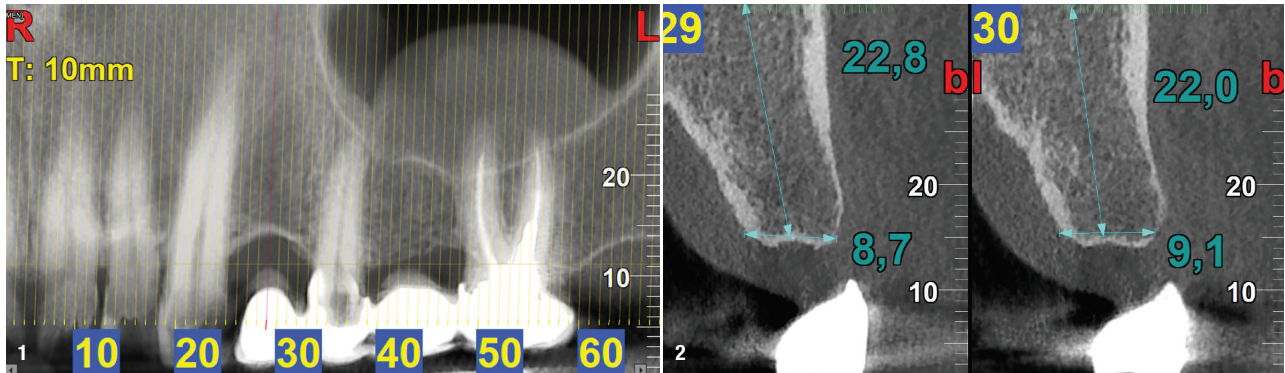


Looking for a ceramic solution

Dr Olivier Chéron, Spain



Initial situation and treatment planning

A 40-year-old patient in good general health came to our practice wishing to replace the bridge extending from pontic #24 to tooth #27 and to place an implant in region #24. An initial digital radiograph and a CBCT scan were performed to analyse the possibility of placing an implant in this area (Figs. 1 & 2). The area did not present with any periapical or intraosseous lesions. The bone width and height were found to be sufficient for implantation, and there was no atrophy. A mucous retention cyst was observed in the left maxillary sinus.

After the initial evaluation, it was decided to replace the bridge from tooth #25 to tooth #27 and to place a Zi implant (Neodent) in the region of tooth #24. The old bridge

would be reattached with temporary cement until placement of the final crown on the implant and of the new bridge.

Procedure

Prior to the surgery, local anaesthesia was administered. Once the gingival flap had been raised, the drilling protocol was followed according to the manufacturer's recommendation for Type D2 bone: initial drill, tapered drills of increasing diameter (2.0, 3.5, 4.3 mm), countersink drill and bone tap (Fig. 3). The implant (4.3 × 10.0 mm) was placed to a final torque of 45 Ncm (Fig. 4) and then a Zi cover screw was placed (Fig. 5). After suturing had been completed, the old bridge was temporarily cemented in place.

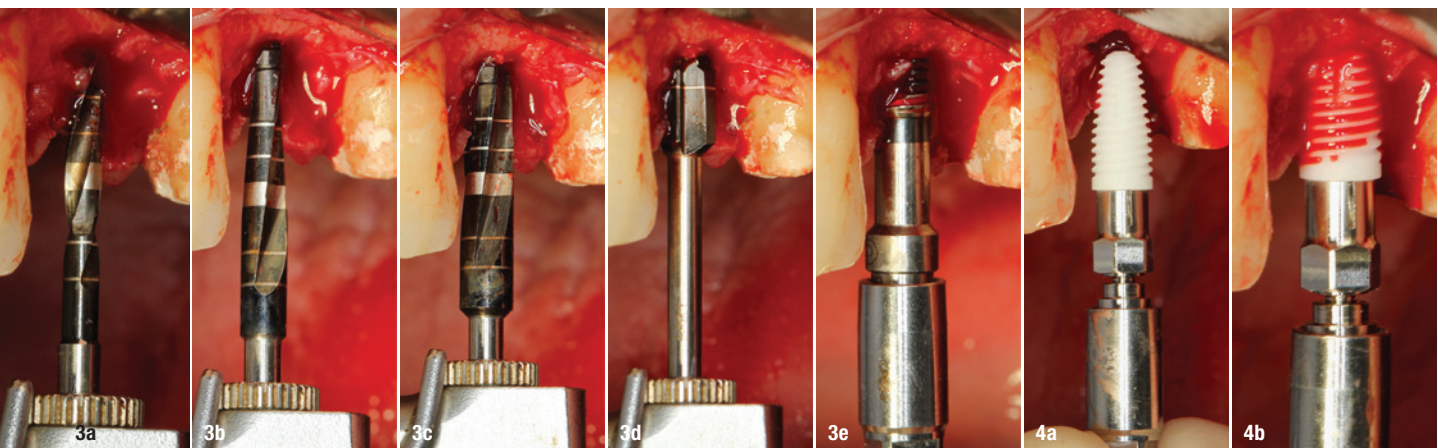


Fig. 1: Radiograph of the initial patient situation. **Fig. 2:** CBCT scan of the initial situation regarding tooth #24. **Figs. 3a–e :** Drilling according to protocol using a 2.0 mm diameter tapered drill (a), a 3.5 mm diameter tapered drill (b), a 4.3 mm diameter tapered drill (c), a countersink drill (d) and a bone tap (e). **Figs. 4a & b:** Placement of the Zi implant.

Prosthetic restoration

After three months, a secondary surgery was carried out to place a Zi healing abutment (4.5 × 2.5 mm). Fifteen days after the second surgery, the Zi implant scan body was seated and an intra-oral scan taken (Figs. 6 & 7). The final crown was seated over the Zi base. The crown and a new bridge were placed, and the occlusal adjustments were performed (Figs. 8 & 9).

Discussion

Alternative treatment options would have been either fabricating a new bridge for tooth #24 to tooth #27 or placing two implants in regions #24 and 26, restoring these with crowns and restoring teeth #25 and 27 with crowns. I however chose the treatment solution described because the patient had wished for a ceramic solution already years ago. He had opted for being fitted with a bridge as he did not want a titanium implant. The patient thus approached our practice looking for a ceramic solution.

In this case, the clinical indications for the ceramic implant system employed required strictly following the surgical drilling protocol recommended by the manufacturer, in order to achieve primary stability and to avoid the stress of screwing into the ceramic. The mentioned procedure requires more attention in positioning and the surgical procedure.

about the author



Dr Olivier Chéron is an implantologist specialising in treatment with ceramic implants and has employed a therapeutic approach based on biological dentistry since 2006. He is co-founder of the Equilibria dental clinic in Barcelona in Spain. Dr Chéron is the European Academy of Ceramic Implantology's ambassador for Spain and co-director

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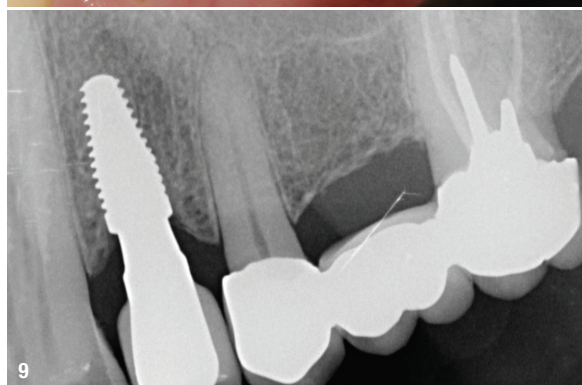
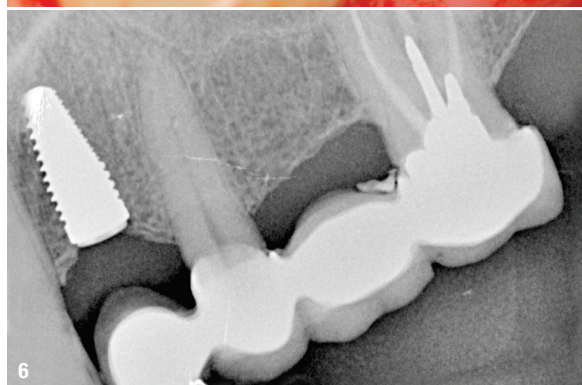
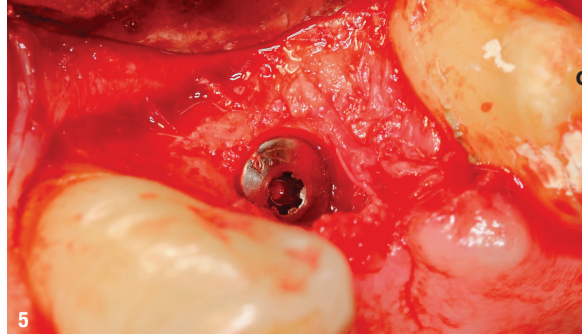


Fig. 5: Zi cover screw *in situ*. **Fig. 6:** Radiograph after three months. **Fig. 7:** Intra-oral scan of the situation with the scan body *in situ* three months after implant placement for prosthetic assessment. **Fig. 8:** Final situation with the crown and bridge *in situ*. **Fig. 9:** Final radiograph.