Immediate aesthetic single-unit anterior restoration using a Grand Morse implant

Dr Luis Honorato Schmied, Chile

Patients' increasing expectations in terms of shorter treatment times are a major challenge for dentists and dental technicians. To support dental professionals in providing quality care faster, the Neodent Grand Morse implant system offers three implant designs, including Helix GM, all featuring the innovative hydrophilic Acqua surface. This maximises primary stability and predictability in immediate restoration protocols.

Case report

The 40-year-old female patient presented with a medical history of cerebral venous thrombosis, suffered in 2016, and epilepsy, diagnosed in 2018. The patient initially presented to the office complaining of spontaneous pain in tooth #21 and, on examination, had an enlarged periodontal ligament and a negative response to the pulp vitality test (Figs. 1 & 2). An emergency assess cavity and endodontic treatment were performed.

Three months after treatment, the patient returned complaining of spontaneous pain. The root canal was treated again and the patient medicated until the pain subsided. However, three months after retreatment, the patient had pain, mobility and suppuration. The root canal was again retreated, and the patient was medicated, but the mobility, pain and suppuration did not resolve.

Planning

A CBCT scan was requested, and tooth extraction was indicated (Fig. 3). Preoperative antibiotic treatment was prescribed for five days before surgery. It was planned to extract tooth #21 and immediately place and restore an implant to replace it.

Treatment and provisional restoration

Tooth extraction and careful alveolar conditioning were performed, taking care not to damage the alveolar bone.

Fig. 1: Initial clinical aspect. **Fig. 2:** Initial periapical radiograph.

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The drilling protocol was then performed following the instructions of the manufacturer, and a Helix GM 4.0 × 13.0 mm implant was placed to an insertion torque of 60 Ncm. A connective tissue graft was harvested from the lateral area of the palate and the wound sutured (Fig. 4). This graft was then placed in a previously prepared vestibular gap and secured with sutures. A biomaterial was also inserted in the gap, and the abutment and screw-retained provisional crown, created from the crown of tooth #21, were placed. Postoperative control was performed three days, one week and two weeks after surgery.

Final restoration

Three months after surgery, the provisional crown was removed, and the buccogingival margin was observed to be in the desired position with an adequate emergence profile and healthy periodontal parameters (Fig. 5).

A GM 3.5 × 4.0 × 1.5 mm titanium base abutment was selected. A personalised zirconia coping was milled to which it was possible to transfer the emergence profile created from the day the implant was placed. A week later, the impression was taken using a custom open tray of acrylic resin and a Scan Regular addition-cured silicone (Yller Biomateriais). The colour of the final prosthesis was then selected. For the conditioning of the prosthetic solution, the Yzap primer and Sylano bonding agent (Yller Biomateriais) were used. The final prosthesis was then tried in and cemented (Fig. 6). Excess cement was removed before polymerisation.

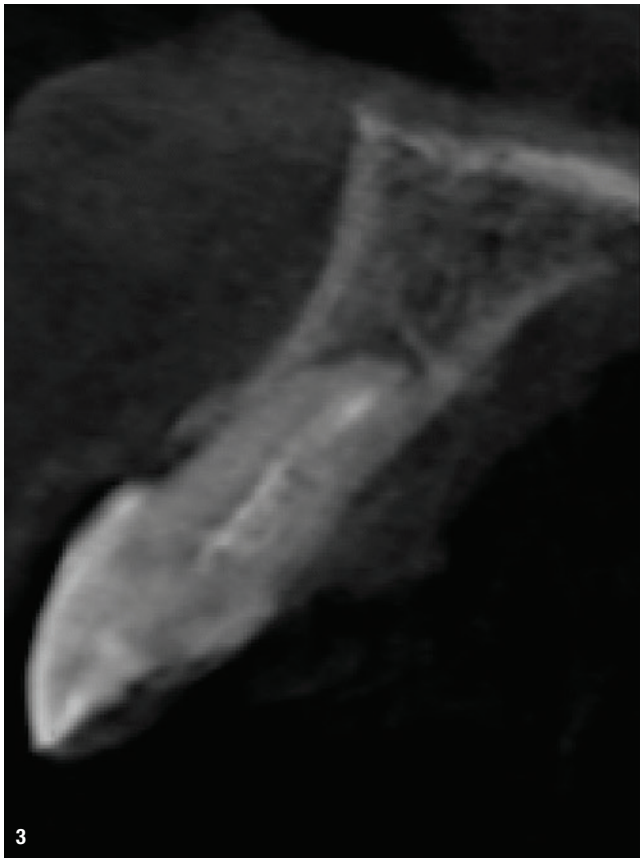
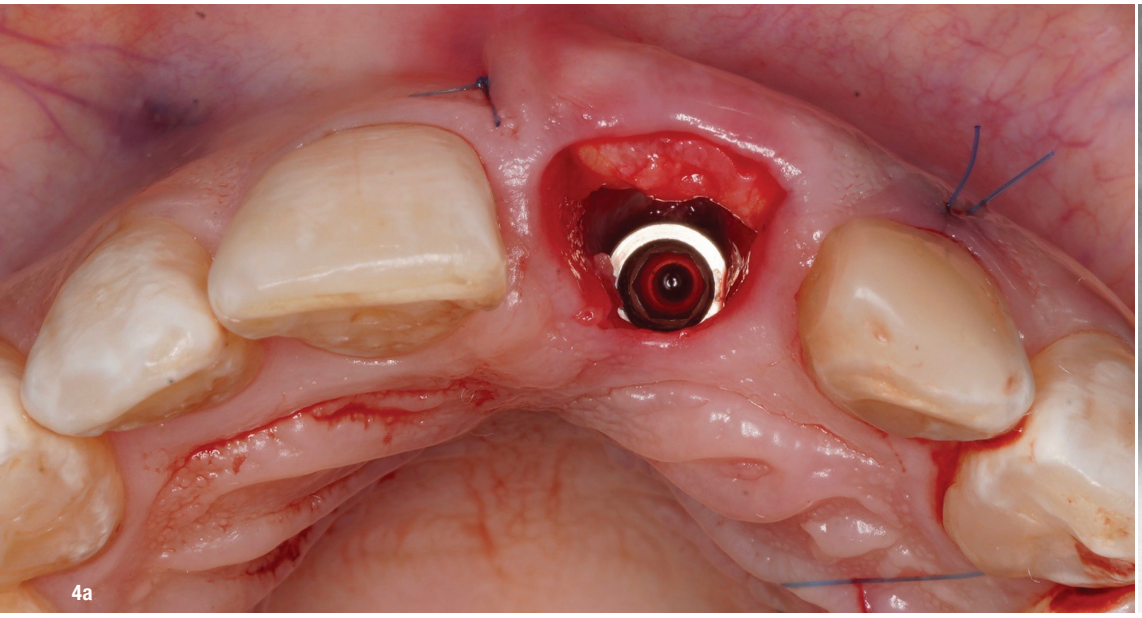
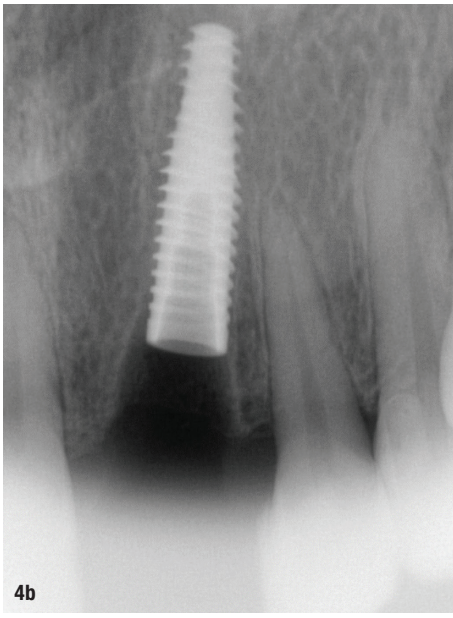


Fig. 3: CBCT scan after canal medication of tooth #21.





Figs. 4a & b: Occlusal and radiographic view of the implant and connective tissue placed.

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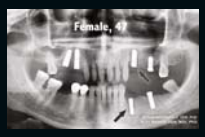

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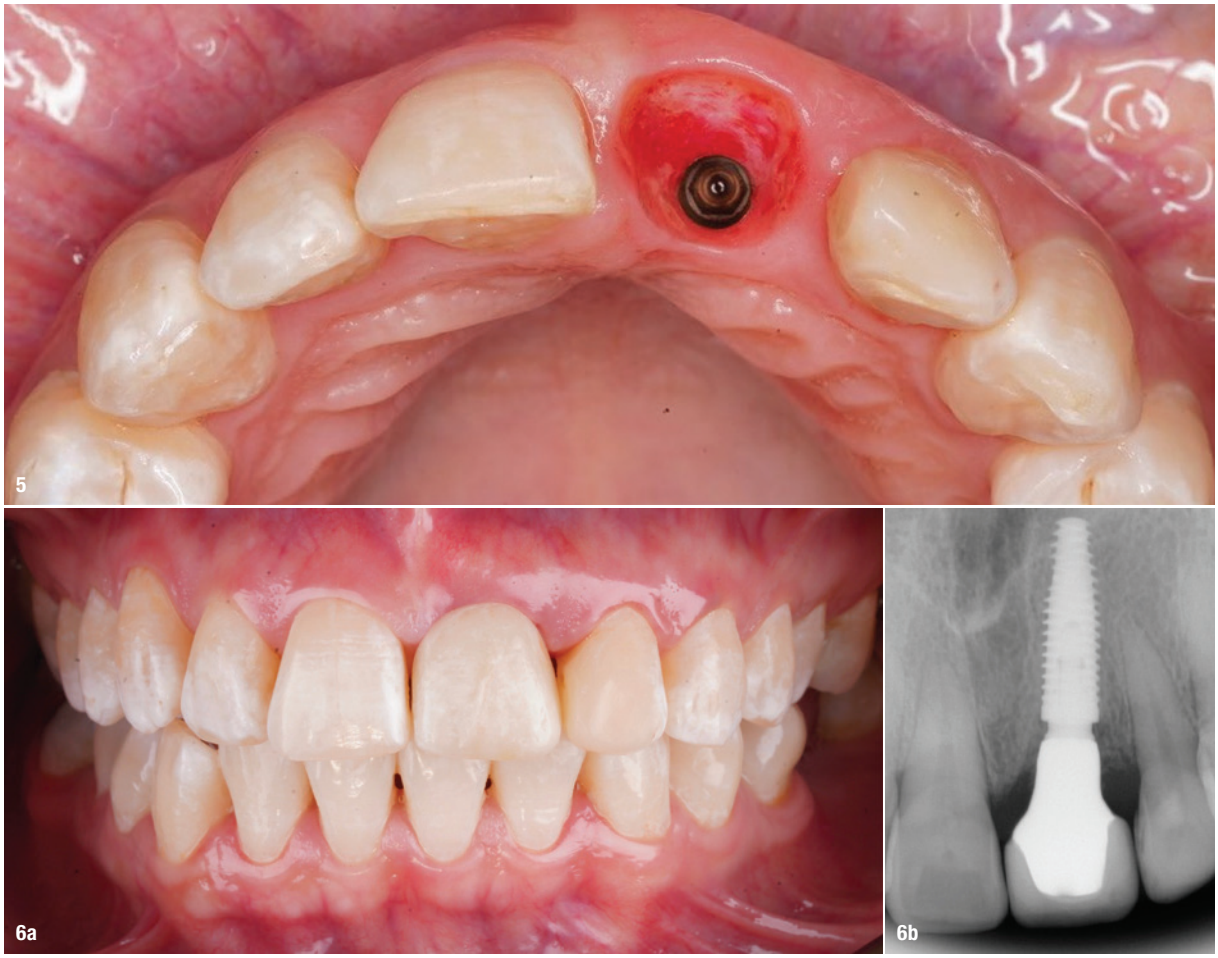

Fig. 5: Clinical gingival aspect three months after surgery. **Figs. 6a & b:** Final clinical aspect.

Conclusion

The macro-design of the Helix GM implant has differential features that enable achievement of progressive torque, adding to the stability of the connection that allowed the maintenance of peri-implant tissue in this case. Another treatment option could have been late placement because of the presence of infection at the extraction site, but the literature is not conclusive in this regard, so we opted for the correct debridement of the site and the use of antibiotics. The challenge in this case was to achieve immediate implant placement and provisionalisation with an ideal aesthetic result in the shortest possible treatment time. The macro-design of the Helix GM implant made it possible to obtain adequate insertion torque so that we could immediately restore the implant using the crown of the extracted tooth, and the Acqua surface allowed us less implant integration time than if we had used another implant surface.

about the author

Dr Luis Honorato Schmied is a surgeon and dentist in Santiago, Santiago Metropolitan, Chile. He has a degree in dentistry from the Universidad Mayor and works as a specialist in implant dentistry. He is the head of Clinic specialisation in Osseointegrated Implantology (Andrés Bello University) and is highly qualified as a maxillofacial surgery professor (Andrés Bello University), dental surgeon (Universidad Mayor) and a specialist in buccomaxillofacial implantology (Universidad de Chile).

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