User Case Abstract

Surgery and prosthetics: Perfect connectivity for complete restorations

An anxious patient with a dentition in need of rehabilitation in the maxilla and mandible requested a restoration with as few implants as possible in the least possible number of sessions. The author, Dr. Werling, shows how this difficult situation can be treated safely with perfectly matched solutions for X-ray diagnostics, digital impression taking, the fabrication of drill templates and prosthetic restoration.

Methods

The decision for the restoration was made in favor of inserting three ANKYLOS implants, planned digitally with the CEREC software and the GALILEOS implant software, inserted with a drill template and finally restored with crowns.

Case history

For this case, the implants for insertion in the patient's mandible were planned first. During the extensive rehabilitation with simultaneous setting of the vertical jaw relation, the clinician prepared a mock-up on the plaster model and scanned it with the CEREC Omnicam. Prosthetic planning was conducted in the CEREC software and was then imported into the Galileos implant software and matched with a DVT prepared using the Orthophos XG 3D. The Ankylos C/X implants were selected from the database of the GALILEOS implant software and visualized as a 3D volume. These true to scale "avatars" can be positioned precisely so that the implantologist can see whether any important anatomical structures are at risk.

An Optiguide drill template was ordered from Sicat online based on the planning data. This enabled precise placement of the implants in the planned position of

the jaw during the surgical procedure. The abutments, prepared with the aid of the CEREC system, were screw-retained on the implants and connected with resin for protection. Then the implants, together with the abutments, were allowed to heal in the patient's jaw for eight weeks. After the healing phase, the implant-supported crowns were restored chairside using the CEREC system. The finished crowns were inserted directly.
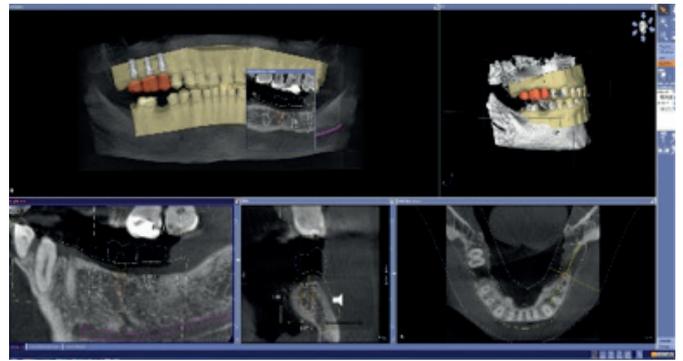
Result

This complex case was treated successfully using guided implant dentistry based on combined surgical and prosthetic planning. The wishes of the anxious patient to have minimally invasive treatment with as few sessions as possible at maximum safety were met in full.
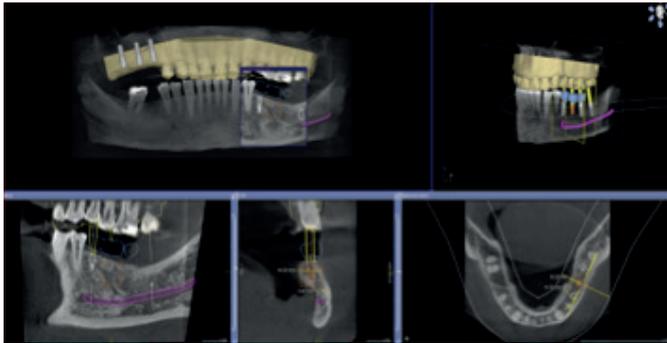
Summary

The experienced implantologist inserted several Ankylos implants in the maxilla and mandible of the 51-year old patient in need of rehabilitation of his dentition. These were planned digitally with the CEREC and GALILEOS implant software and inserted precisely and safely using a Sicat Optiguide drill template. Subsequent restoration was performed with hybrid abutments and CEREC crowns.

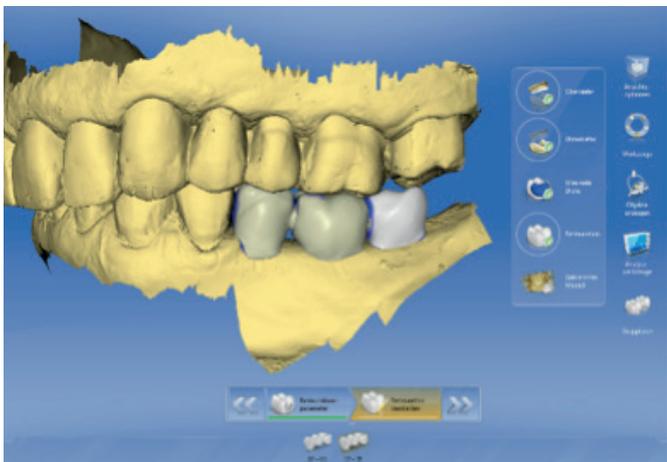The insufficient initial situation with loss of vertical dimension.

Planning of the drill template for implantation in the mandible by matching the 3D X-ray data with the prosthetic suggestion of the CAD/CAM system.
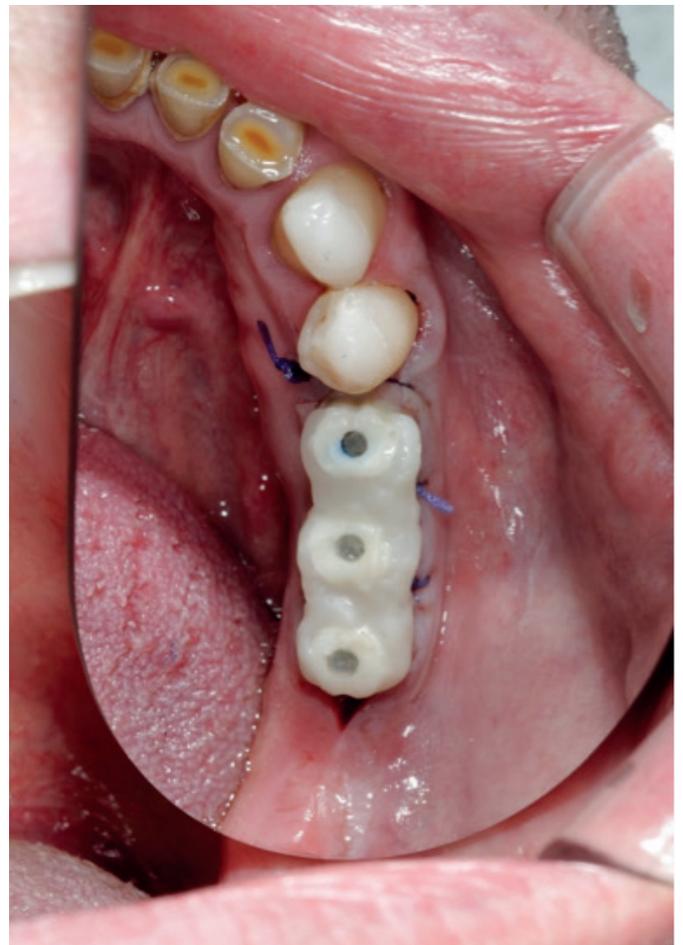

Representation of the anatomical structures incl. the N. mandibularis. Due to the particular situation in region 34, a single implant with a length of 8 instead of 11 mm was chosen.

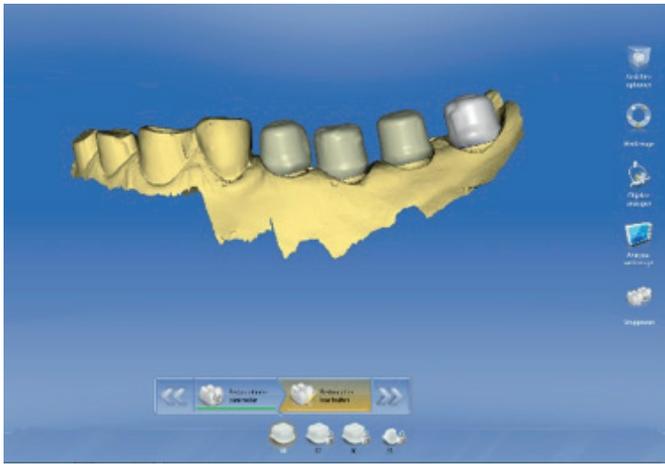Ankylos titanium base and lithium disilicate ceramic abutment ground on the CEREC MC XL grinder.

Planning of the mandibular restorations with CEREC.

Completed OPTIGUIDE drill template with drill sleeves on the plaster model.

Protection of the abutment through a resin splint directly post-op.

Virtual design of the ceramic abutment in the CEREC software.

CEREC software suggestion for the prosthesis in the mandible.

Finished prosthetic restoration in the mandible.

The final situation.

OPG to check the implants.

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