

# Restoration of maxilla with six immediately placed and immediately loaded Straumann® Roxolid® SLA Bone Level Tapered (BLT) implants and fixed bridge using CARES frame

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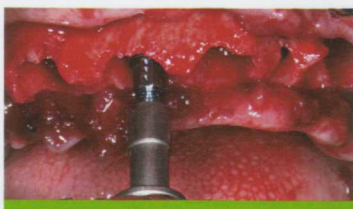
(FIG. 1)



(FIG. 2)



(FIG. 3)



(FIG. 4)



(FIG. 5)



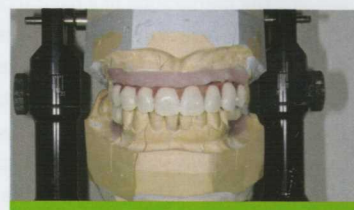
(FIG. 6)



(FIG. 7)



(FIG. 8)



(FIG. 9)

## INITIAL SITUATION

A 62-year-old female was referred to us as her upper fixed bridge had failed. Radiographs and clinical examination showed that all the supporting teeth had carious lesions below the margins to such an extent that they could not be saved and the adjacent premolars on both sides were also non-restorable; oral hygiene was moderate (FIG. 1). Her medical history was complex (supraventricular tachycardia, transient ischemic attacks, hypertension) but controlled, and a severe pharyngeal (gag) reflex made dental treatment without sedation impossible. The overall esthetic demand was not high and the smile line was favorable.

## TREATMENT PLANNING

It was decided that as the patient's dentition had failed due to recurrent caries and that she would be unable to tolerate a denture, her best option would be to replace the failed teeth with a fixed bridge on implants, provided that access for cleaning with the power-wash was easy. All treatment sessions would require IV sedation (oral sedation proved to be inadequate). The patient was duly warned about the complexity and risks involved. A plan was drawn up as follows:

- Full medical review with consultant cardiologist and consultant anesthetic team.
- Impressions for working models (wax-up, immediate bridge, surgical guide)
- CBCT.
- Upper arch extractions, saving teeth #16 and 26 to keep occlusal vertical dimension; insert implants, bone graft into sockets and fit immediate temporary bridge.
- Allow healing, then final prosthetics using Straumann® CARES® to provide a metal / resin bridge in the maxilla and implant retained crowns in the lower jaw.
- Follow-up.

The CBCT confirmed that adequate bone was present in all implant sites in both jaws. The medical team concluded that it was safe to proceed with multiple IV sessions, bearing in mind that the clinic is based within a large hospital setting.

## SURGICAL PROCEDURE

Phase One: The bridge was sectioned and teeth removed, except teeth #16 and 26. The sockets were debrided. (FIG. 2). The implant sites were prepared following the prosthetic guidance of the surgical stent keeping the preparation in a palatal position within the sockets (FIG. 3). Straumann® RC Bone Level Tapered (BLT) SLA implants were inserted, keeping the crest below both the buccal and palatal socket wall level (FIG. 4). All implants had good final insertion torques and a high ISQ (TABLE 1, PAGE 35). Bone particles from the drills were saved during the preparation process and placed on the exposed implant surfaces within the sockets. A xenograft material was also used for the scaffolding of the remaining bone sockets. Screw-retained abutments were fitted and torqued to 35NCm. Titanium non-engaging temporary copings were secured onto the abutments, and the flap was closed with 4/0 Velosorb®. BLT implants were also inserted into the mandible, one NC (35) and RC (36 and 46), as torques were high (FIG. 5); healing abutments were immediately connected to the implants prior to flap closure

## PROSTHETIC PROCEDURE

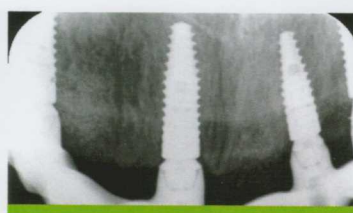
The hollowed out temporary bridge was seated over the titanium copings and the two were fused together with self-curing resin (FIGS. 6, 7). Soft tissues around the implants were shaped with the emergence profile of the temporary bridge to allow easy access for cleaning. The bridge was removed 3 weeks after expo-



(FIG. 10)



(FIG. 11)



(FIG. 12)



(FIG. 13)



(FIG. 14)

sure to assess healing, and the intaglio surface was cleaned and polished. Soft tissues were healing well and there was no sign of infection. Impressions were taken in silicone putty (Elite HD®) 8 weeks later. The accuracy of the impression and working model was checked with a resin jig, followed by occlusal registration and try-in of the maxillary bridge wax-up (FIGS. 8, 9). The upper master model, which included Gingicast®, was scanned using the Straumann® CARES® software (FIG. 10). A stepped frame was designed and fabricated, with a polished fitting surface to aid cleaning (FIG. 11). The fit was totally passive and the fabricated acrylic/metal bridge was fitted, torquing the prosthetics screws to 15NCm (FIG. 11). Screw holes were sealed with PTFE tape and pink/white resin. The lower implants were restored with ceramic fused to cast precious-metal substructures.

### FINAL RESULT

At follow up, oral hygiene was good, with no signs of inflammation. The patient was extremely happy with the outcome.



### CONCLUSION

BLT implants were successfully used to rehabilitate this patient's maxillary and mandibular arches, despite the complexity of the case. The immediate stability achieved, even within the sockets, was so high that the temporary bridge could be fitted as planned. The CARES® software provided a totally passive titanium framework using a polished metal fitting surface. Cleaning with the power-wash should be easy and at follow-up there was no sign of any debris collecting around the implants (FIGS. 13, 14).