

Case Report - Dr. med. dent. Steffen Ulbrich, St. Gallen, Schweiz

Biodenta[®] Tissue Level Implant – expanding an existing bridge restoration

Introduction

Success or failure of implant worn restorations depends mainly on the planning, the stability and the remaining dentition (Fig. 1). At this juncture, reconstructions which are not only attempted on implants exhibit a small risk.

Therefore the Dentist cannot be 100% certain about the vitality and firmness of the remaining dentition. Infections of the periodontium, e.g. periodontitis, can cause severe damage.

Case report

The 49 year old patient's dentition, presented on the OPG (Fig. 2), shows two apical lesions on teeth #25 and #44. Both teeth required extraction due to these apical lesions. On tooth #44 the bridge restoration also necessary to be sectioned. The post-extraction sites were augmented with Bio-Oss[®].

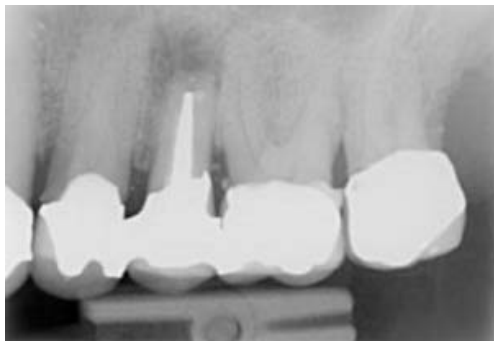


Fig. 5: Close-up of the situation on tooth #25

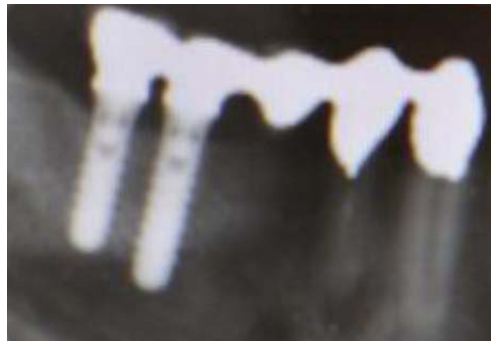


Fig. 6: Close-up of the situation on tooth #44

The periapical x-ray of the maxilla (Fig.5) shows an endodontic post restoration with an apical lesion on tooth #25, whilst Fig.6 shows another infected area on tooth #44. After the extractions and a healing time of 3 months, the post-surgical x-ray showed a stable bone situation (Fig. 2, 3 and 4).



Fig.1:
Pre-planning OPG



Fig. 2
Radiograph taken
post-extraction and after
separating the bridge



Fig. 3:
Periapical x-ray of tooth #44 and #45



Fig.4:
Periapical x-ray of tooth #25.

Case Report - Dr. med. dent. Steffen Ulbrich, St. Gallen, Schweiz

Three Biodenta® implants were placed using a two-stage protocol. In the maxilla, at tooth position #25, a 4.1mm diameter RP Length 12mm implant was placed. In the mandible, at tooth position #44 and #45, 4.8mm diameter RP Length 10mm Biodenta® implants were placed. All the implants placed were Biodenta® Tissue Level implants (Fig.7).

During the healing phase, there are two choices for covering the implants after insertion:

- a. Hidden healing: with this option a closure screw is inserted into the implant and then the soft tissue is sutured over the implant for healing purposes.
- b. Exposed healing: with this option a “healing cap” is inserted into the implant. The height of the healing cap can vary between 2 and 4mm. The soft tissue is adapted to the healing cap and sutured around it. The advantage of this technique is that the soft tissue is “pre-formed” to the shape of the final abutment (Fig.9).



Fig. 9: Pre-formed soft tissue profile.



Fig. 7:
OPG post-implantation



Fig. 8:
Healing cap – height 2mm

Case Report - Dr. med. dent. Steffen Ulbrich, St. Gallen, Schweiz



Fig. 10: Customised abutments on the mandibular model



Fig. 11: Final crown restorations seated on the mandibular model



Fig. 12 Customised abutment on the maxillary model



Fig. 13: Final crown restorations seated on the maxillary model



Fig. 14: Torque wrench tightening of a customised abutment

The abutments were customised by the dental laboratory & they produced a “positioning-key”. This offers a big advantage for the reason that it helps to ensure that the abutments are placed in exactly the right position within the mouth (Fig.18).



Fig. 15: Fixed customised abutments in the mandible



Fig. 16: Fixed customised abutments in the maxilla



Fig. 17: Post-surgical x-ray - maxilla



Fig. 18: Positioning-key



Fig. 19: Post-surgical x-ray - mandible

Case Report - Dr. med. dent. Steffen Ulbrich, St. Gallen, Schweiz

Due to functional considerations, the crowns for #44 and #45 were fused. A chamfer between both crowns enables the insertion of an interdental brush for cleaning the space. Zinc Phosphate cement was used for the final cementation of the crowns.

A control x-ray after 6 months showed the typical bone remodelling of a tissue level implant - stable bone level at the first implant thread.



Fig.21: Cemented restoration in the maxilla



Fig.23: Cemented restoration in the mandible.

Clinician

Dr. med. Dent. Steffen Ulbrich is a member of the ITI group and the AACD.

Dr Ulbrich is a Consultant within Prof. Sailer's Clinic in Zurich.



Fig. 20:
X-ray after cementation in the maxilla



Fig.22:
X-ray after cementation in the mandible.



Dr. med. dent. Steffen Ulbrich