

Important Numbers in Implant Dentistry



22 crowns

**Full oral rehabilitation with a shortened
Dental arch with the use of oral implants
; a case report**

Irfan Abas MSc, DDS, Prosthodontist

Department of Implantology and Periodontology, Radboud University Nijmegen Medical Center, the Netherlands

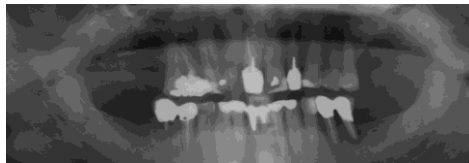


Objective

Oral rehabilitation of a worn maxilla and mandible can become a challenging treatment, especially with hopeless teeth that have to be removed. To reconstruct a dentition with acceptable white and pink esthetics a prosthetic and surgical protocol can become of use to have a predictable outcome. Also the use of a shortened dental arch can make the treatment less complex en more cost effective.

Case

A 54-year old male had the request for full oral rehabilitation. Patient was prior diagnosed with periodontal disease and had received periodontal therapy. Although the therapy was successful, many teeth were lost due to endodontic and periodontal pathology. At intake teeth # 14, 11, 22 and 45 were hopeless teeth. Teeth # 17, 16, 26, 27, 35, 36, 37, 46 and 47 were already missing.



Prior to the start of the treatment a full mouth wax up was made to have a backwards planning.



After a thorough discussion with the patient it was decided to make a fixed partial denture (FDP) 15-x-13, 12-x-21-x-23 and single crowns 24 and 25 in the maxilla. In the mandible implants would be placed at # 46, 45, 35 and 36, single crowns 44, 34 and FPD 33-32-x-x-42-43. To improve the pink esthetics, socket seal procedure was performed after extraction of the # 11 and 22 with a bovine bone derived collagen xenograft (Bio-Oss Collagen, Geistlich). Due to the class III relation an end-to-end bite the prosthodontic planning would become cusp-to-cusp occlusion and an open bite of 1 mm in the front to protect the incisal porcelain.

Protocol

The following surgical and prosthodontic planning was made:

1. Full mouth wax up
2. Prepare #15, 13, 12, 21, 23, 24 and 25 for full ceramic FDP. Extraction 11 and 22 and perform socket seal procedure and make transitionals crowns
3. Prepare # 44, 43, 42, 32, 33 and 34 for full ceramic crowns; transitional crowns and extract 45.
4. Implant placement # 35, 36, 45 and 46 (MegaGen AnyRidge) with GBR (with a bovine bone derived xenograft (Bio-Oss) and collagen membrane of porcine origin (Bio-Gide).

Interim period of 3 months for osseointegration and prosthodontic evaluation

5. Second stage surgery implants
6. Impression taking maxilla and mandible with a poly ether based impression material (Impregum 3M ESPE)
7. Bite registration with with a bite-tray on implant level with gypsum.
8. Cementation of the FPD and crowns with composite resin cement (SA cement Kuraray).
9. Cement and occlusion check after 2 weeks in situ.
10. After 6 weeks radiographic check of the implants.
11. Check up after 6 months and also radiographic control.

