

Anterior mandibular bone grafts by submental approach

J. Guiol*, J.F. Tulasne

University Hospital Nantes, France

Background: Some cases of totally edentulous mandibles are associated with extreme osseous resorption, which do not allow the placement of dental implants, even in the symphysis area. In these cases, bone reconstruction techniques are limited by the risk of gingival tear and graft exposure.

Technical Note: The bone graft technique with a submental approach avoids an intraoral break and the risk of graft exposure or infection. The reconstruction was done with calvarian bone apposition in the mandibular interforaminal region. The graft was generally placed on the upper surface of the symphysis and occasionally on the underside. The scar was hidden in the submental fold.

Discussion: We believe this surgical technique is mainly indicated for cases with extreme bone resorption. It allows the reconstruction of the mandibular symphysis, without an intraoral approach. The postoperative courses are uneventful thanks to the cranial bone harvesting technique. This approach can also be indicated for elderly patients who complain about ill-fitting dentures.

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No periimplantitis case ever seen!

F. Hernández Altemir*, S. Hernández Montero,
S. Hernández Montero, E. Hernández Montero

Private Institute, Zaragoza, Spain

Background: For the time being, we have never observed inflammatory or similar effects within the structure of titanium implants.

Objectives: We would like to question the validity of the terms implantitis/periimplantitis as we believe that inflammatory process cannot exist within the structure of the implant device. Should the term refer to processes around the implant, other terms would potentially need to be used.

Methods: Our clinical practice with implants started in 1961–1962. At that time, the concept of osseointegration was not observed and the work involved implant types different from titanium. When both (osseointegration and titanium) came together, the current era appeared. Evolution brought us to periimplantitis and also to everything surrounding the referred term. Large material for study exists, both clinical and bibliographic, and therefore many studies could be performed. We wonder though, whether it would be possible to speak about a physiopathology of the osseointegration and try to understand even better the aspects of periimplantary illness. Researchers have the environment needed for their practice and that allows the comparison among implantary phenomena and the one derived from the dental physiopathology: perception of mucosa inflammation related to gum inflammation related to implants, leading to mucositis. Same rational made that periimplantary inflammation led to implantitis/periimplantitis.

Findings and Conclusion: Our practice with official devices could not prove inflammatory signs within the device; this triggers our concern about the terminology used.

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Biomechanical analysis of immediately loaded implants according to the all-on-four concept

S. Horita*, T. Sugiura, K. Yamamoto, K. Murakami, T. Kirita

Department of Oral and Maxillofacial Surgery, Nara Medical University, Nara, Japan

Background: The All-on-Four concept offers a less invasive option because it requires fewer implants, with bilateral distal implants inserted at an inclination of 30° to decrease the cantilever length. However, there has been little biomechanical evidence for immediately loaded implants according to the All-on-Four concept.

Objectives: The purpose of this study was to investigate the biomechanical behaviour of immediately loaded implants in an edentulous mandible according to the All-on-Four concept.

Methods: A three-dimensional finite-element model of an edentulous mandible was constructed. Four implants were placed between the bilateral mental foramen according to All-on-Four concept. A framework made of titanium or acrylic resin between the bilateral first molars was modelled. Immediate loading and a delayed loading protocol were simulated. A vertical load of 200 N was applied at the cantilever or on the abutments region of the distal implants, simulating the absence of a cantilever.

Findings and Conclusion: The loading position greatly affected the principal compressive and tensile strain values. The peak principal compressive strains in non-cantilever loading resulted in a 45.3–52.6% reduction compared with those in cantilever loading. Mandibular fixed full-arch prostheses without cantilevers may result in a favourable reduction of the periimplant bone strain during the healing period, compared with cantilevers. The maximum micromotion was within the acceptable limits for uneventful implant osseointegration in the immediate loading models. Framework material did not play an important role in reducing the periimplant bone strain and micromotion at the bone-implant interface.

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Treatment with short zirconium-oxide implants

S. Jank

Department of Oral and Maxillofacial Surgery, Medical University of Innsbruck, Austria

Zirconium-oxide implants in maxillofacial surgery are a growing market. Regarding titanium implants, there is a tendency to short implants to avoid augmentation. Regarding zirconium implants, the manufacturers and the users are still more conservative regarding diameter and length of the implants.

In this case-report, a patient is presented, receiving an implant with a length of 6 mm.

No problems regarding osseointegration and healing occurred. The implant presented stable after 3 months, therefore the dentist could continue with prosthetic reconstruction.

Studies with a bigger number of patients are required to prove the potential of short zirconium oxide implants in comparison to titanium.

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