



15936 POSTER DISPLAY CLINICAL RESEARCH – SURGERY

Reconstruction of horizontal bone defects with xenogeneic blocks, histological, tomographic and primary torque analysis – Case report

Jorge Luis Da Silva Pires¹; Paulo Gonçalo Dos Santos Pinto²; Eduardo José De Moraes³; Igor Da Silva Brum²; Jorge José De Carvalho²; Ricardo Guimaraes Fischer²

¹Brazil; ²UERJ, Brazil; ³IDM, Brazil

Background: Among bone graft materials, autologous bone is undoubtedly the most appropriate because of its biological characteristics, such as osteoconduction, osteoinduction and osteogenesis. Grafting of intraoral donated sites may, however, provide only a limited amount of autologous bone, exposing the patient to additional morbidity, such as, pain, and nerve damage. As an alternative to the autologous bone graft, the xenogenic block of bovine bones was considered to increase the horizontal volume.

Aim/Hypothesis: Analyze whether xenogenous block grafts can be used for horizontal bone augmentation and maintenance of the primary torque and stability of the implant, and to assess the bone quality formed in the grafted region by histopathology.

Material and Methods: Patient S.A, female, 50 years old, white, undergoing treatment with implants in the anterior maxilla, at the UERJ School of Dentistry, (Rio de Janeiro, Brazil) with absence of the four upper incisors. Patients received 2 g of amoxicillin 1 hour before surgery. She was instructed to rinse her mouth with 0.12% chlorhexidine solution for 60 seconds immediately prior to surgery. Local anesthesia consisting of 2% lidocaine (1–100,000 epinephrine) was administered. An incision was made along the alveolar ridge through the keratinized gingiva to the alveolar ridge. A full mucoperiosteal flap was lifted, and the cortical plate was perforated with a spherical drill several times to induce bleeding at various sites. Two Xenogenic blocks (5 × 10 × 10 mm blocks, Bonefill Block - Bionnovation) according to the contour of the bone defect. Fixation screws (2 × 11 mm, Neodent) were used to fix the grafts to the residual alveolar bone the same origin as the block used, and covered with LPRF membrane.

Results: In the preoperative tomographic evaluation, the measured measurements were between 1.89 and 3.12 mm. In the postoperative tomographic evaluation, the measures measured were between 5.15 and 7.15 mm. Six months after surgery, two implants with Cone Morse (3.5 × 11 mm) were placed in the grafted area of Implacil De Bortoli, São Paulo, Brazil. The torque measured in the implants was 20 Ncm, two prosthetic connections, smart pillar, were installed with 2.5 cm of transmucosal band, 4 mm in height and 3.5 mm in diameter of Implacil De Bortoli, São Paulo, Brazil. The result of graft biopsy was fibrous tissue of trabecular connective tissue and bone graft. The patient was rehabilitated with a temporary prosthesis of thermopolymerized pressed acrylic resin. The final prosthesis is made with Zirconia and feldspathic ceramic, with digital flow planning (CEREC CAD CAM - Dentsply Sirona).

Conclusion and Clinical Implications: Xenogeneic blocks have been shown to be a suitable alternative to reconstruct horizontal defects and alveolar ridge that has undergone extensive resorption, although lower insertion torques were obtained during implant placement. Further investigation on the behavior of these implants and the prosthetic rehabilitation is recommended.