P-SU-064

IMPLANT THERAPY OUTCOMES; SURGICAL ASPECTS

Regeneration of a twelve teeth wide horizontal defect in the completely edentulous maxilla using the shell technique with three allogenic bone plates, composite bone graft and only one intraoral donor site- alternative to hip bone grafting

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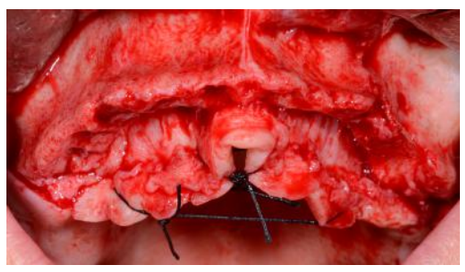
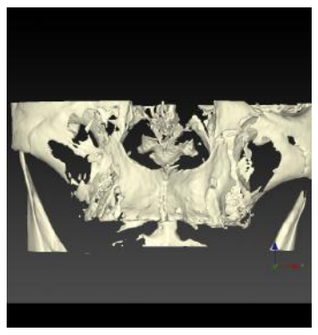
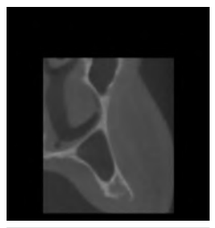
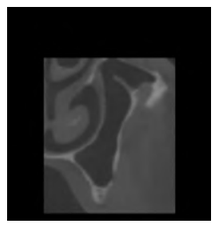
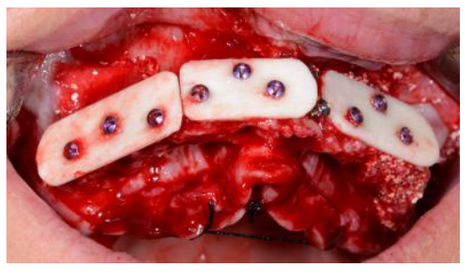
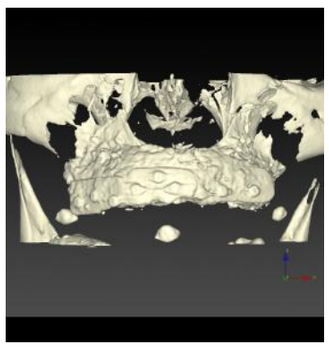
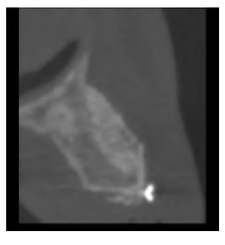
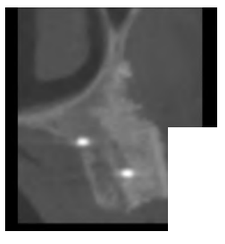
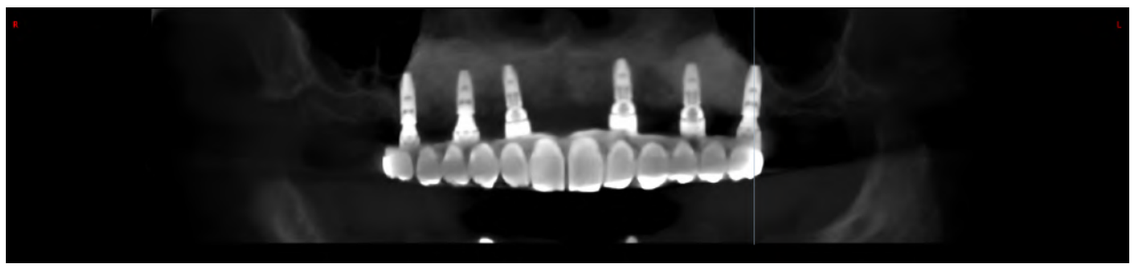
Abstract

Results

Results: The twelve teeth wide horizontal defect was regenerated using the shell technique and three allogenic bone plates. For the particulated graft a composite bone graft consisting of equal parts of the autogenous and xenogenic bone graft was used. Since the allogenic bone plates were used instead of autogenous plates, all the harvested autogenous bone was used for the creation of particulated composite bone graft. This fact allowed the regeneration of a wide defect with opening only one intraoral donor site. The patient was able to avoid extra oral bone harvesting, reducing treatment morbidity, recovery time and total costs of the procedure. On the other hand the procedure was faster and technically less demanding for the operator. Additionally, the 3-d bone model facilitated the palling of the surgical procedure in regards of the position, number and shaping of the allogenic bone plates.






Background and Aim

Background: Inadequate volume of alveolar bone can prevent prosthetically driven implant placement. Different regeneration techniques and biomaterials have been developed for horizontal bone regeneration. Many authors have described the shell technique where a 1 mm thin cortical bone plate is used to create a contained defect. The use of the allogenic bone plate with the shell technique can decrease the morbidity, total time of surgery and the technical complexity of the shelll technique. The aim was to present a case of a completely edentulous maxilla with inadequate bone width present throughout the whole upper jaw and inadequate vertical bone volume present in the posterior regions. To correct this twelve teeth wide horizontal defect the shell technique with the allogenic bone plates and a composite bone graft consisting of 50% of autogenous and 50%xenogenic graft was used.

Conclusion

Conclusions and Clinical Implications: Allogenic bone plates used with the shell technique can be considered a valid alternative to the autogenous bone plates. With the use of allogenic bone plates all the autogenous bone from the donor sites can be used only for the creation of the autogenous particulated or composite particulated bone graft allowing the regeneration even of twelve teeth wide defects .

Methods and Materials

Materials and Methods: A 55 year old patient presented to the university clinic with the completely edentulous jaw. After the CBCT image was analysed consultations were made with the prosthodontist. Six implants were planned to be placed in the region 12, 14, 16, 22, 24, 26 and a twelve unit screw retained zirconium ceramic bridge was intended to be fabricated above the implants. As a consequence of inadequate vertical and horizontal bone volume a staged bone regeneration with a subsequent implant placement was planned. In the region 16 and 26 a sinus elevation procedure with xenogenic bone graft was planned to correct the lost vertical bone dimension. In order to restore the twelve teeth wide horizontal bone defect a regeneration with the shell technique and the use of allogenic bone plates and a particulated composite bone graft consisting of 50% autogenous bone and 50% xenogenic bone graft was proposed to the patient. One week before the surgery a 3-d bone model was made to plan the number, position and shape of the allogenic bone plates. With the help of CAD-CAM technology a monolithic zirconia, twelve unit screw retained, bridge was fabricated.

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