

CAD/CAM MESHES PRINTED IN TITANIUM T40 Grade 2 IN PRE-IMPLANT SURGERY

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BACKGROUND

Pre-implant surgery is essential component to prepare the implant site, ensuring a stable and durable results. Several techniques such as guided bone regeneration, autogenous bone graft or titanium meshes have been described and published for lasts years. Recently, the use of CAD/CAM individualized titanium meshes has emerged as a promising method to optimize GBR results.

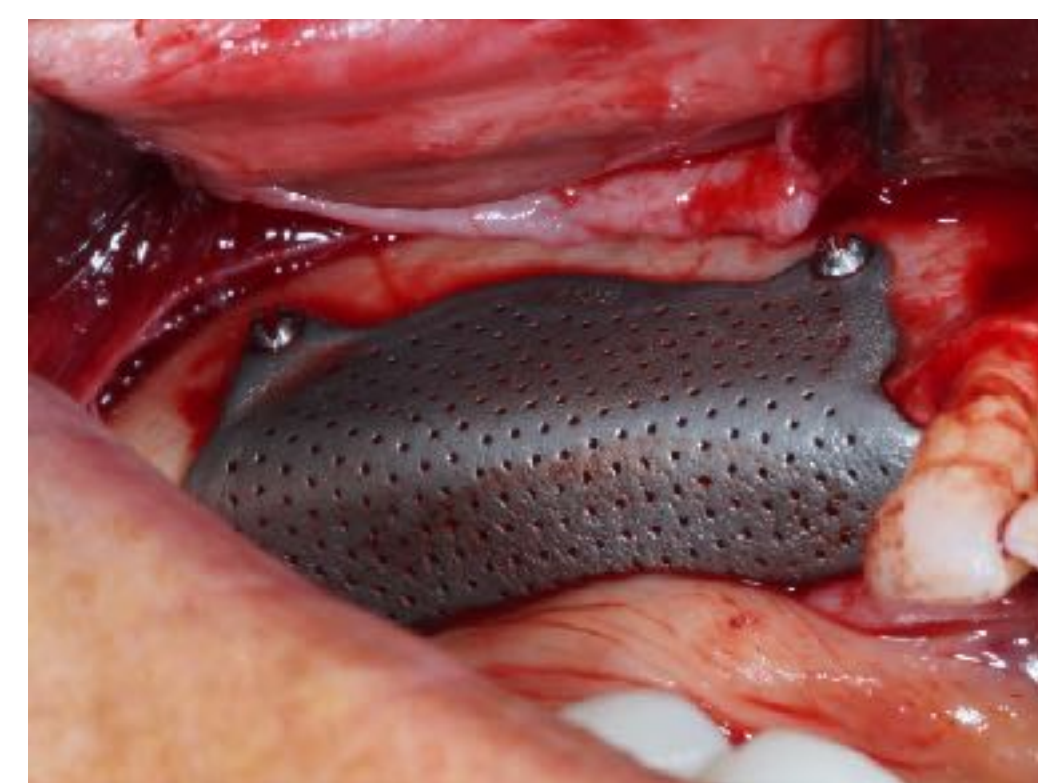
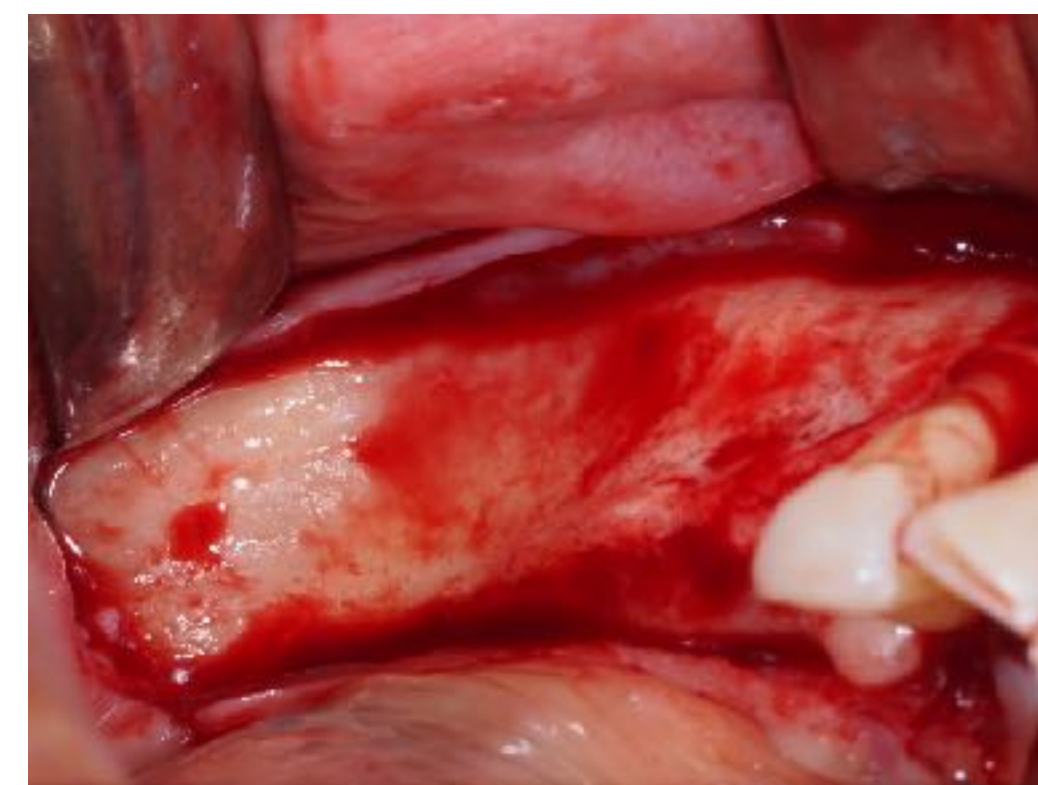
AIM

This article presents a serie of 5 clinical cases aimed at evaluating the efficacy of use and success of a new generation of Cad/Cam Individualized Titanium Meshes T40 Grad 2



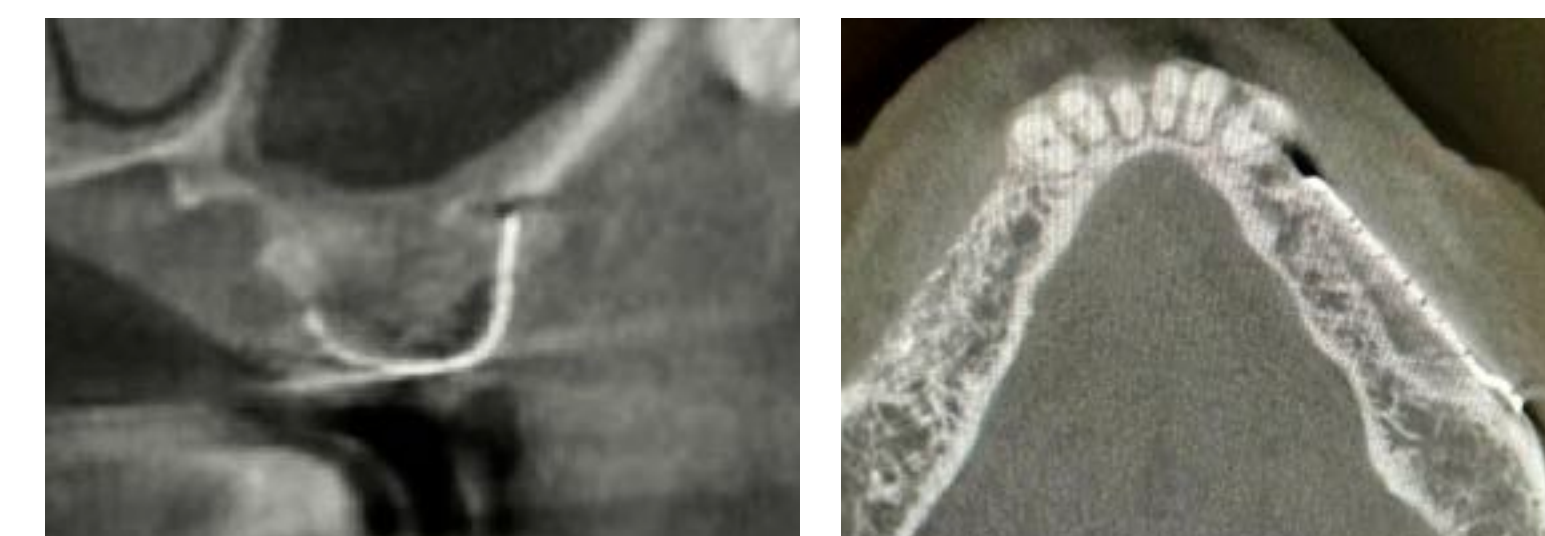
MATERIALS&METHODS

5 regenerative surgeries were performed on 5 patients with moderate to severe bone atrophies. The titanium meshes were custom-designed from patient CT scans and digitally print. The particularities of this new generation of titanium meshes lie in the microperforated structure allowing to maintain the biomaterial, the blood supply and internal and external surface treatment. Biomaterial was a mix of autogenous bone and bovine bone matrix (DBBM) (1:1 ratio). All surgeries were performed by a single operator. The patients were reviewed after 1, 2, 3 and 4 weeks and 4 months.



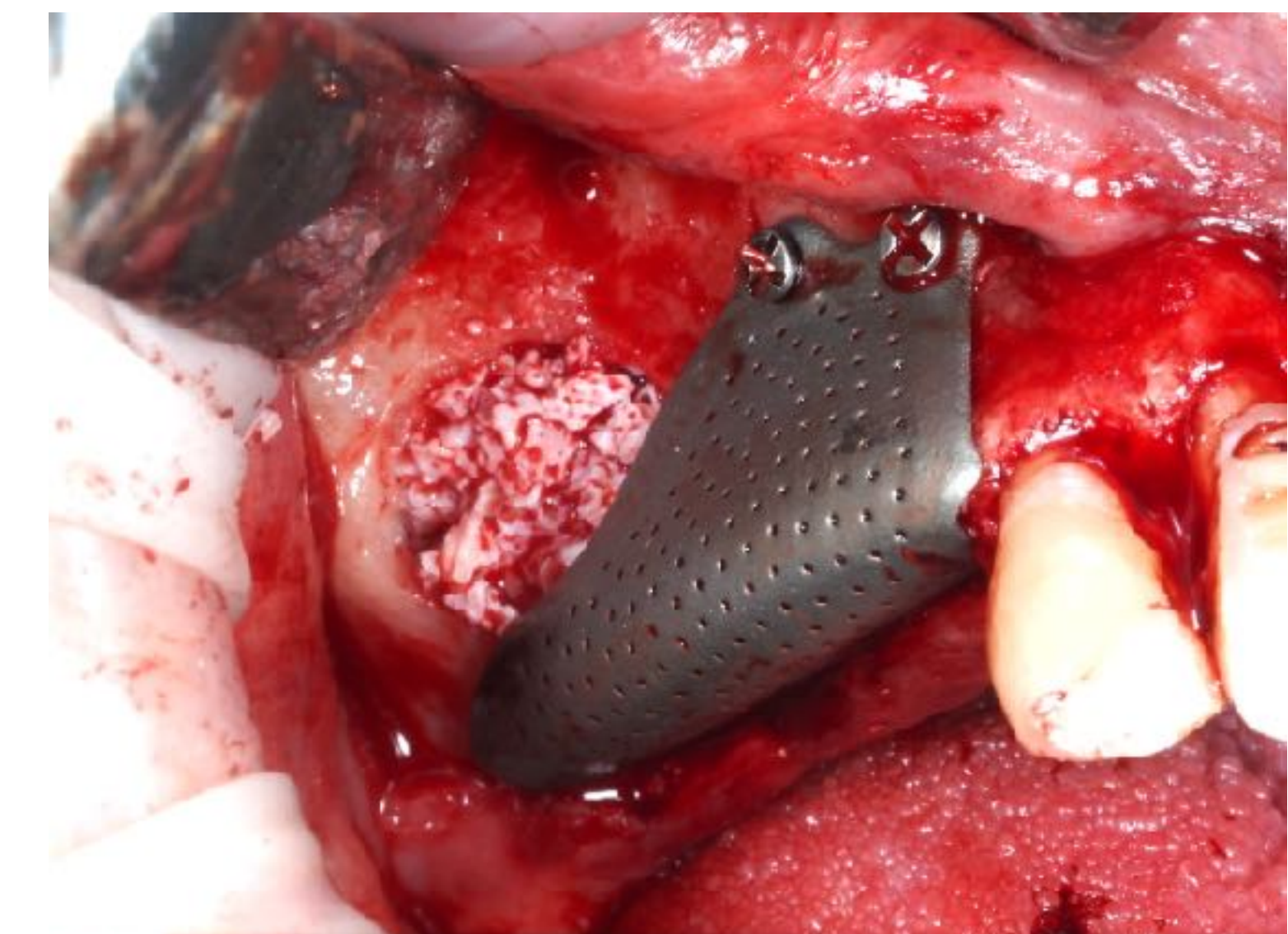
RESULTS

The fitting of the Meshes on the defect site was very satisfying. The fixation of the mesh to the defect site was rapid and did not require any modification. As for the macrostructure, the fact that it is microperforated allows the retention of the biomaterial. These two factors greatly reduce the operating time. In terms of postoperative complications, one mesh shows an exposure after 1 month and 2 weeks and the case was managed by local chlorhexidine application and finally removed after 3 months. Other case healed without any local or systemic complication. The CBCT and re-openings showed good bone quality and quantity.



CONCLUSIONS

The use of individualized 3D printed titanium meshes for bone regeneration in pre-implant surgery proves to be an effective and safe method. It offers significant advantages in terms of the amount of regenerated bone and reduced operating time. These promising results suggest that this technology could become a new standard in implant site preparation, improving clinical outcomes and patient satisfaction.



DISCLOSURE OF INTEREST

Titanium meshes were manufactured and distributed by Biotech Dental. The author declare no conflict of interest.