CLINICAL AND HISTOLOGICAL EVALUATIONS OF GBR OUTCOMES WITH d-PTFE MEMBRANE AND BOVINE-AUTOLOGOUS BONE GRAFT

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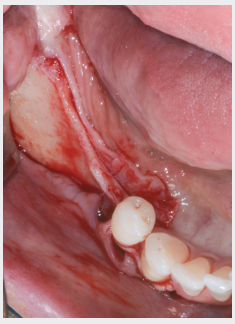
AIM

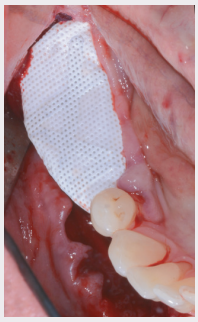
The aim of this work is to evaluate the clinical goodness in terms of quantity and quality of the regenerated bone, confirming the clinical impressions with an histological support in order to certify the outcomes of the GBR case treated with heterologous biomaterial and autologous particulate bone.

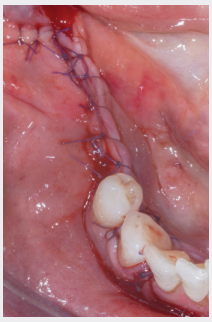
Lack of elements 45, 46 and 47 and an edentulous atrophic crest (IV grade according to Cadwood & Howell)



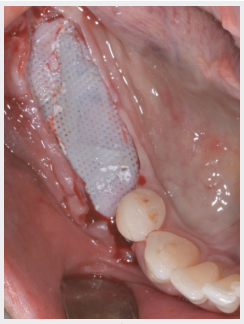
Trapezoidal full-thickness flap and posterior mandible

d-PTFE titanium reinforced membrane fixation and bone graft (50% particulate bovine bone and 50% autologous bone) placement. Flap passivation after buccal membrane fixing

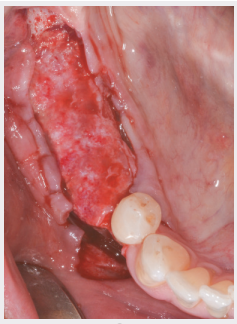




Suture and first intention wound closure



1



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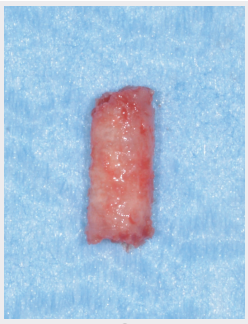

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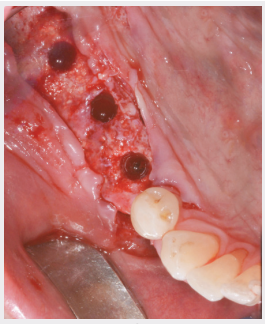
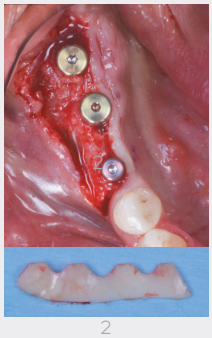


4

8 months later

1. Site reopening with membrane
2. Membrane removal
3. Taking two bone samples using a core drill
4. Three implants placement

1



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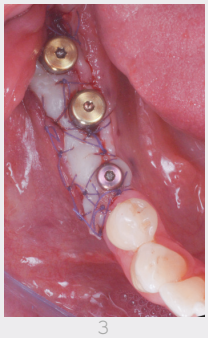

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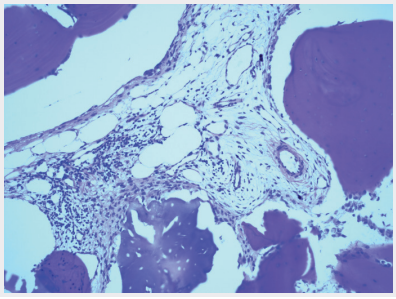
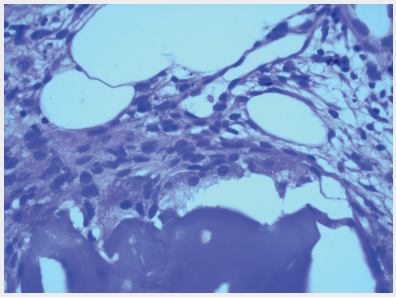
4

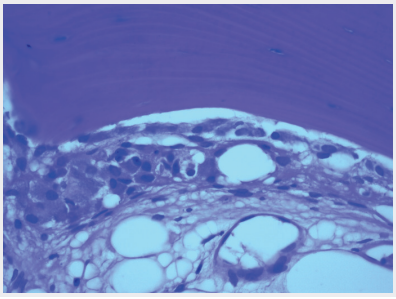
4 months later

1. Tissue healing 4 moths from fixtures
2. Implants reopening and palate graft harvesting
3. Free gingival graft placement and suture
4. Tissue healing

HISTOLOGY







High presence of osteoblasts activitiy. An osteoblast figures in the last picture.

RESULTS

The defect was resolved by obtaining a quantitatively and qualitative satisfactory bone that makes the treatment predictable in the long term. After removal of the membrane the bone thickness in horizontal terms ranged from 12 to 15 mm and the little vertical atrophy was totally solved. During the preparation of the implant tunnel the bone seemed of quality III and, after drilling, it was bleeding. The histological examination of the regenerated bone samples taken during the second surgery, shows an high presence of activated osteoblasts that indicate an intense osteosynthetic activity.