Abstract: A 44-year-old male patient was referred to the Egas Moniz Dental Clinic, with a previous history of failed bone regeneration, resulting in a reduced buccal-palatal bone thickness and aesthetic compromise of the gingival margin of the anterior maxilla. Since the use of autologous bone is considered the “gold-standard” in guided bone regeneration, the treatment plan consisted of an autologous mental graft into the maxilla, with a simultaneous guided bone regeneration with a xenograft and absorbable membrane. This allowed a predictable volumetric bone regeneration with low patient morbidity and posterior fixed rehabilitation.

Keywords: autologous bone; bone graft; guided bone regeneration; implantology
3. Results and Discussion

After initial documentation, the first part of the surgery involved the exposure of the defect with a full thickness mucoperiosteal flap and measurement, facilitating the harvesting of bone.

Using the same method, the donor site was exposed, and an osteotomy was performed on the left mental region, to remove the bone block. Afterward, hemostasis was achieved, and the donor site was regenerated with collagen membrane and xenograft and sutured (Figure 1).

Lastly, the bone block was held in place in the recipient site with fixation screws. A xenograft material (NanoBone®) was used to fill the rest of the defect, and an absorbable collagen membrane (Evolution OsteoBio®) was applied, covering the bone grafting materials. The recipient site was then sutured. A provisional crown was lastly adhered to the adjacent teeth.

Due to the multi-dimensional defect present, the use of an autologous bone block was crucial, both to stabilize the grafting materials, as well as to ensure the maximum regenerative ability both vertically and in buccal-palatal thickness, thus confirming, that the use of autologous bone in large bone defects remains one of the best options for bone augmentation procedures.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest: The authors declare no conflict of interest.

References


