

STEPWISE HORIZONTAL AND VERTICAL RIDGE AUGMENTATION IN IMPLANT DENTISTRY. IS THERE ANY SEQUENCE?

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OBJECTIVES

The aim is to show that a moderate to severe Seibert III defect could be augmented by stages. First horizontally using Autogenous Block Grafts, second vertically with Osteogenesis Distraction, third Guided Bone Regeneration at the implant placement time; finally, a Connective Tissue Platform Graft. (Fig. 1 a-d)

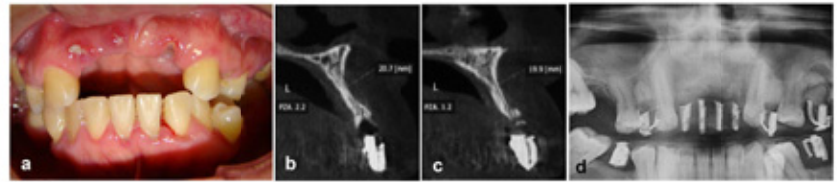


Figure 1

METHODS

We made three stage bone augmentation procedures in a 48 year-old male patient from site 1.2 to 2.2. First, in a 2.5 mm. width ridge two Autogenous Block Grafts (ABG) were performed with the right measurements according to the defects in order to augment horizontally. (Fig. 2 a-d)

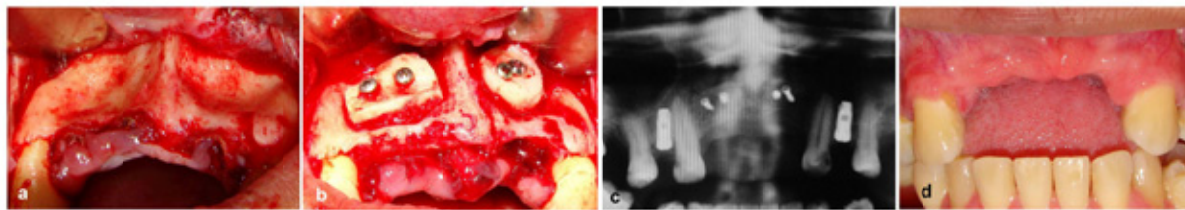


Figure 2

When five months have passed, there was the necessity of 4 mm. vertical augmentation; consequently, an Osteogenesis Distraction (OD) was made at a rate of 1mm. per day. Each three days during the activation period the device went back 1 mm. for not having the classic sandglass shape defect postdistraction. (Fig. 3 a-e)

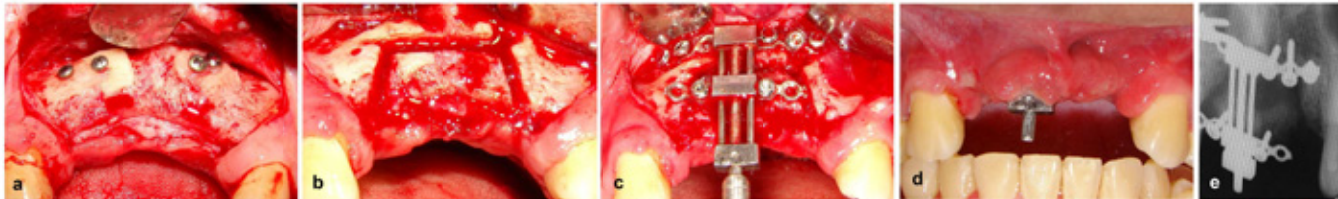
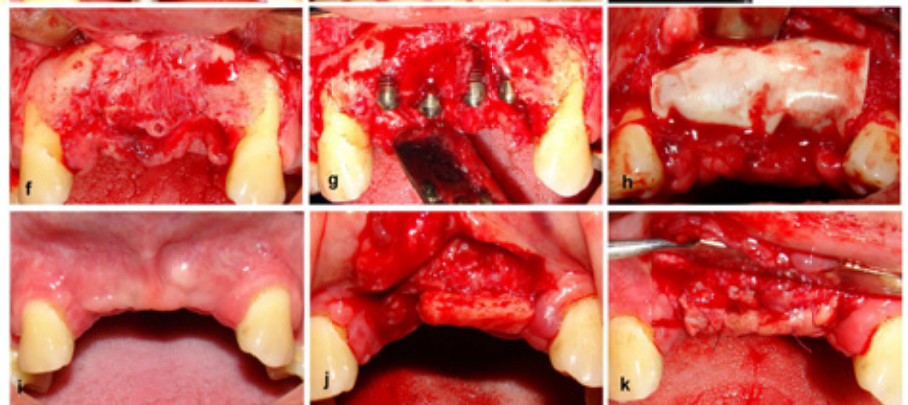


Figure 3

Four small diameter implants were able to be placed at each site with Guided Bone Regeneration (GBR) after the consolidation period. (Fig 3 f-h). Once hard tissue was augmented, soft tissue management was required as well; thus, Connective Tissue Platform Grafts (CTPG) were done to improve aesthetic contours. Finally, temporary restorations will be necessary to reshape margins and papillas before the final restoration. (Fig 3 i-l)



RESULTS

1. The ABG provided 4 mm. horizontal augmentation after the healing period.
2. At the end, a 4 mm. vertical augmentation was achieved by OD after expected bone remodeling.
3. There was a light to moderate horizontal decrease.
4. GBR was necessary at the time implant placement for improving bone contour.
5. The implants osseointegrated without complications in the grafted and new bone formed.
6. The soft tissue vertical improvement obtained with CTPG was about 3.5 mm.
7. There was not any flap dehiscence during the process.

CONCLUSIONS

It is known that 4 mm. vertical augmentation is not easily obtained with grafts without complications. On the other hand, we need to create a thicker ridge, as a first stage, to provide cells to regenerate vertically and for fixing the distractor device. Consequently, before implants a vertical augmentation was performed after horizontal augmentation. The sandglass shape defect was not totally avoided, but was light. The CTPG is an effective technique to manage vertical gingival defects.

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