

OSSIX[®] Volumax

Correction of Posterior Horizontal Ridge
Deficiency with Simultaneous Implant
Placement Following a GBR Approach

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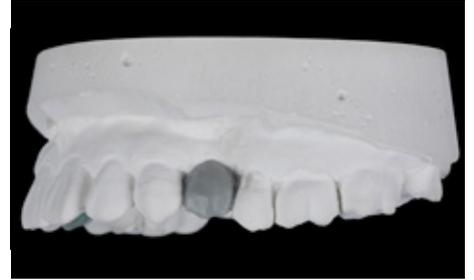
Case background

A 49 year old Asian American male presented with tooth #12 missing, which was extracted 8 years ago due to a root fracture. His medical history was non-contributory, but he had a history of generalized slight chronic periodontitis. He is currently enrolled in a periodontal supportive therapy program. The patient opted for an implant-supported prosthesis to replace #12 and a porcelain-fused-to-metal crown to enhance the status of #13. Upon thorough clinical and radiographic evaluation, a horizontal alveolar bone defect was identified on #12 site. The surgical treatment plan consisted on placement of a 4.2 x 11 mm implant with simultaneous hard and soft tissue augmentation using allograft particles and OSSIX® Volumax.

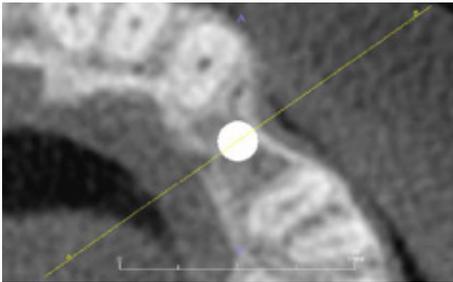
Pre-operative assessment



Occlusal and buccal view of the edentulous site



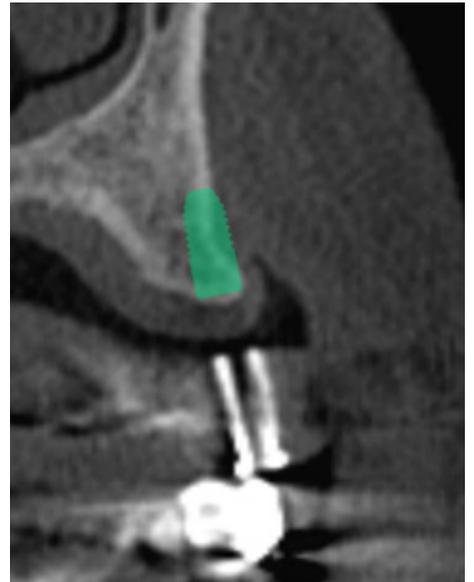
Diagnostic wax-up



Transversal CBCT cross section and volumetric reconstruction

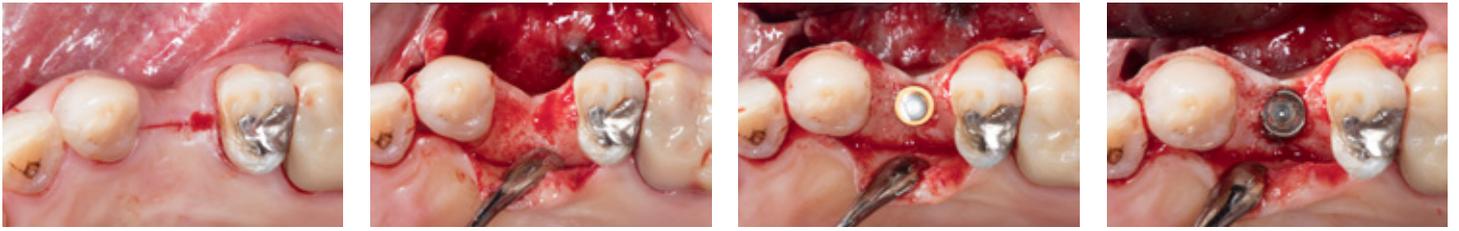


Mesiodistal CBCT cross section showing planned implant

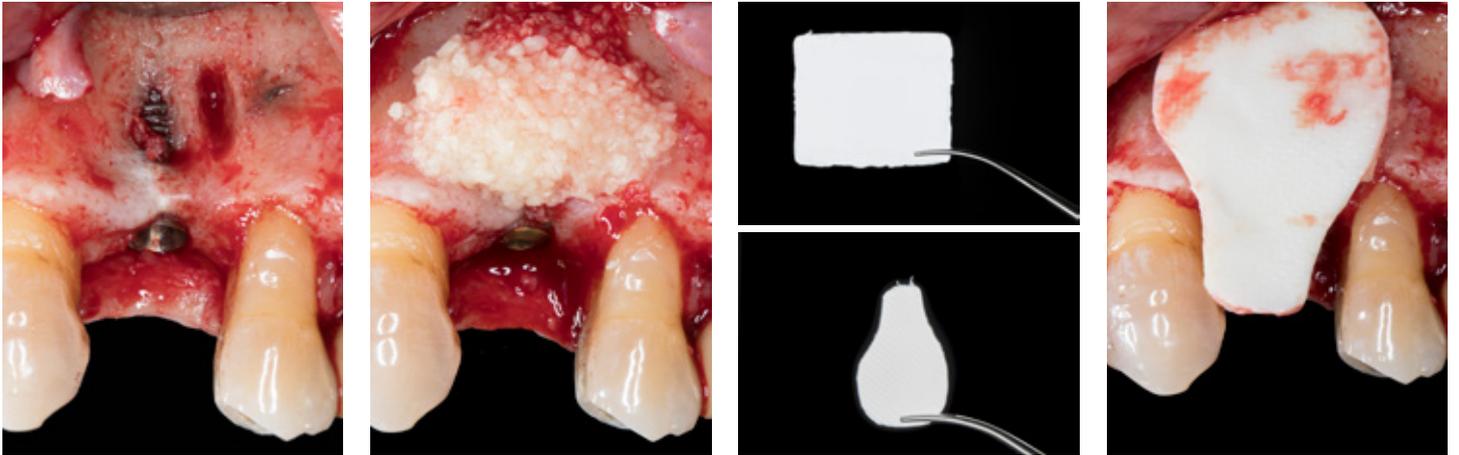


Sagittal CBCT cross section demonstrating buccal defect

Surgical intervention



Occlusal views depicting the sequence of initial incision, flap elevation, osteotomy and implant placement



Buccal view showing the bone dehiscence

Allograft particles covering the defect

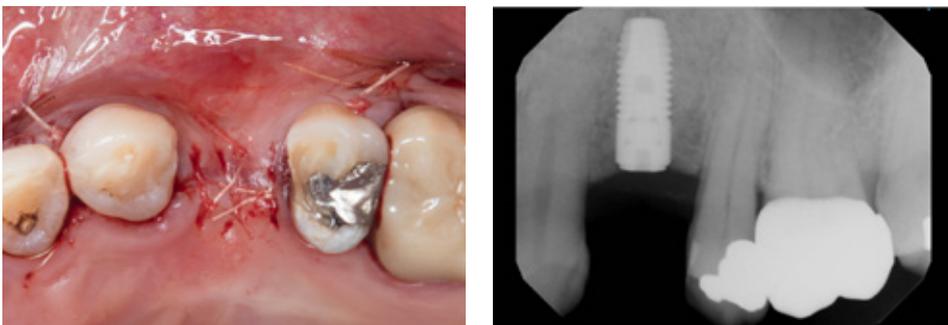
OSSIX Volumax before and after trimming it

OSSIX Volumax placed over the defect



Occlusal views showing the allograft particles filling the defect and the positioning of OSSIX Volumax

over the implant head OSSIX VOLUMAX placed without bone graft



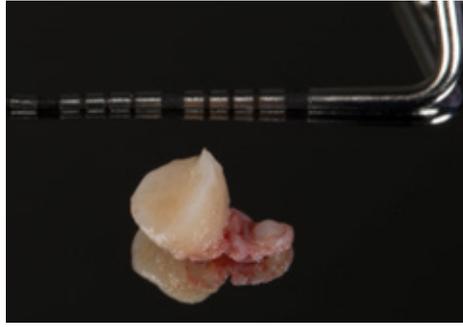
Occlusal view showing the surgical site upon closure

A periapical radiograph was obtained to verify implant position

Implant uncovering - 20 weeks



Occlusal view of the healed site showing good healing

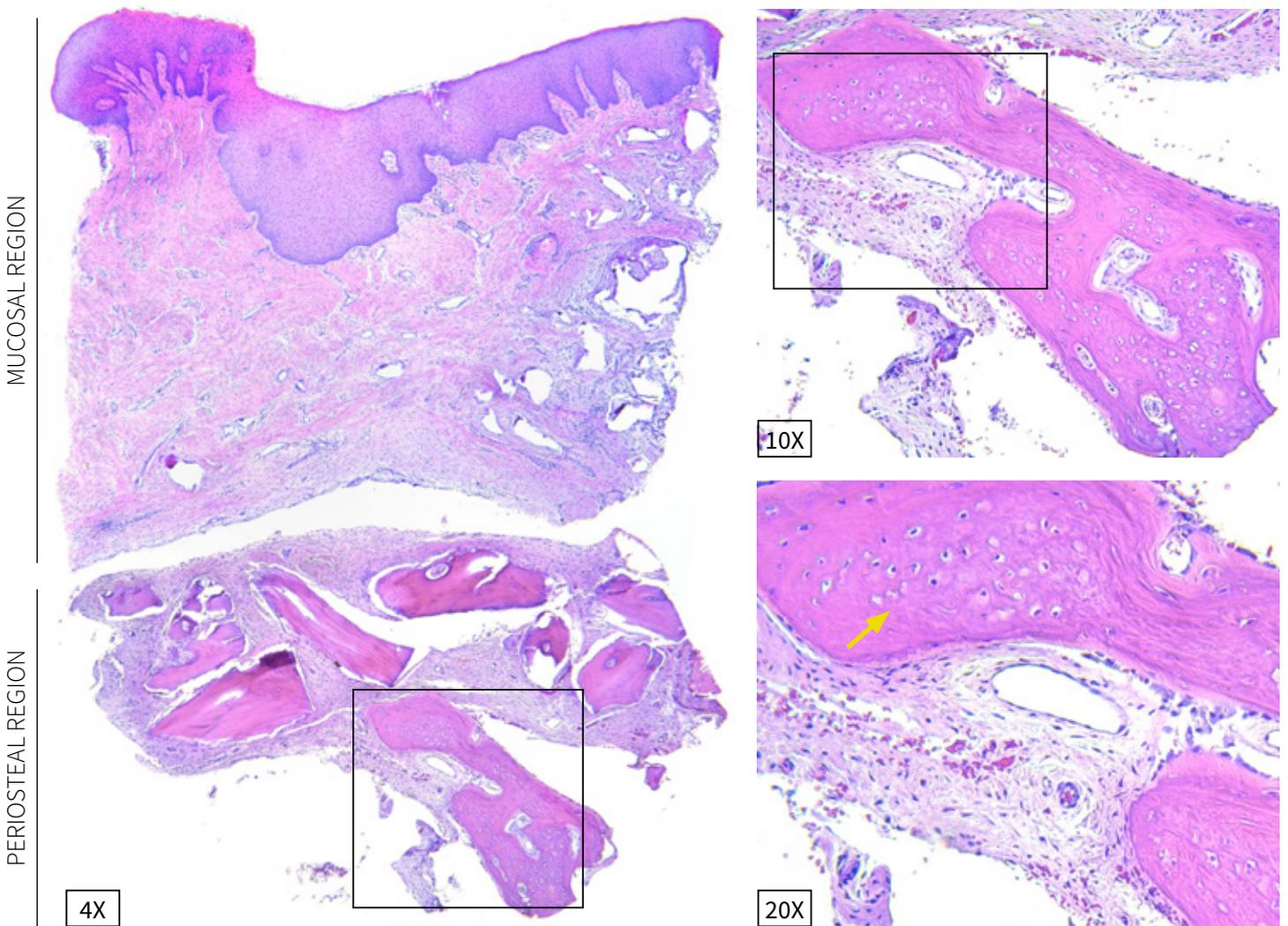


Soft tissue biopsy obtained after excision of overlying mucosa



Healing abutment in place

Histologic analysis

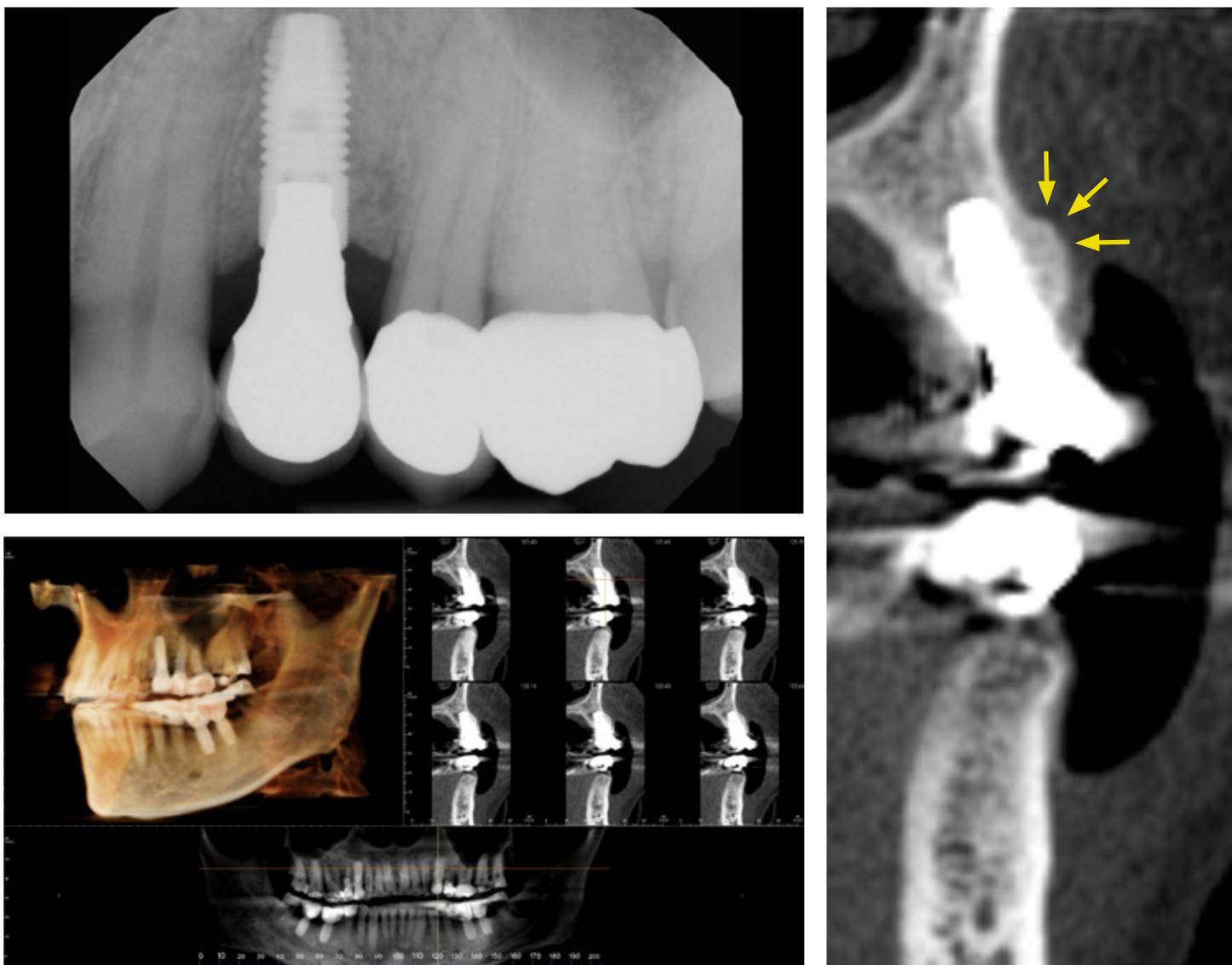


Microphotographs captured after histologic processing of the biopsy obtained following implant uncovering (Hematoxylin & Eosin - 5 μ m sections under light microscopy). Two different regions can be differentiated at 4x (left): A more coronal mucosal region and a more apical periosteal region in which OSSIX Volumax was located. A detailed analysis of this region at 10x and 20x demonstrates the presence of newly formed bone tissue that appears to be following an endochondral pattern of ossification (yellow arrow).

Post-functional loading follow-up at 30 days



Intraoral photographs showing the final restorative result in maximum intercuspation, occlusal and buccal view



Radiographic images depicting the final result at 30 days after delivery of implant-supported crown on #12 and PFM crown on #13. The periapical radiograph (upper left) illustrates normal marginal bone levels. CBCT volumetric reconstruction and selected sagittal section confirm ideal implant positioning and absence of pathosis, as well as excellent bone support on the buccal (yellow arrows), confirming a successful GBR outcome after using cortical allograft particles in combination with OSSIX® Volumax.

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OSSIX® Volumax is a thick, cross-linked, ossifying collagen scaffold, which restores lost volume in guided bone regeneration (GBR) and guided tissue regeneration (GTR) procedures.

OSSIX Volumax is available in 4 sizes.

OSSIX Volumax is currently available in the USA, Europe, Argentina, Canada, Chile, Colombia, Dominican Republic, Hong Kong, India, Israel, Korea, Mexico, Thailand and Singapore.

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