



BioBrief

GUIDED TISSUE REGENERATION

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Odontogenic Keratocyst Management

leading regeneration

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The Situation

A 60-year-old-heathy Caucasian female presented with the chief complaint: “I noticed a bump on my lower left teeth since last year.” Exam revealed stable periodontium except enlarged gingival tissue between #21-22 measuring 10x8x5mm, well defined borders, depressible, non-painful, vital teeth without displacement. Treatment plan included flap surgery, excisional biopsy, GTR #21-22 (Diff Dx: Lateral periodontal cyst (LPC), Odontogenic Keratocyst (OKC), Benign Fibro-Osseous lesion (BFOL).

Guided Tissue Regeneration (GTR) using Geistlich Bio-Oss® and vallos®f was performed and covered with a resorbable collagen membrane (Geistlich Bio-Gide®).

Primary closure was completed using non-resorbable sutures. Follow-up at 2, 4 weeks, 3, 6 months showed stable periodontium without re-occurrence. The pathology report indicated OKC and the area is monitored annually.

The Risk Profile

	Low Risk	Medium Risk	High Risk
Patient’s health	Intact immune system/ Non-smoker		
Patient’s esthetic requirements	Low	Medium	High
Height of smile line	Low	Medium	High
Gingival biotype	Thick - “low scalloped”	Medium – “medium scalloped”	Thin - “high scalloped”
Shape of dental crowns	Rectangular		Triangular
Infection at implant sight	None	Chronic	Acute
Bone height at adjacent tooth site	≤ 5 mm from contact point	5.5 - 6.5 mm from contact point	≥ 7 mm from contact point
Restorative status of adjacent tooth	Intact		Restored
Width of tooth gap	1 tooth (≥ 7 mm)	1 tooth (≤ 7 mm)	2 teeth or more
Soft-tissue anatomy	Intact		Compromised
Bone anatomy of the alveolar ridge	No defect	Horizontal defect	Vertical defect

The Approach

The treatment goal was to excise the lesion around #21-22 and stabilize the periodontium. Sulcular incisions #20-22 with vertical incision #22 MF were performed. Upon full thickness flap reflection, the lesion was removed (excisional biopsy). The defect extended #21M-#22D with complete facial bone loss. It was a wide 1-2 bony wall defect measuring 10x8x5mm. GTR procedure using Geistlich Bio-Oss® and vallos®f and Geistlich Bio-Gide® for the collagen membrane were employed. Primary closure was obtained using 6-0 prolene suture.

The Outcome

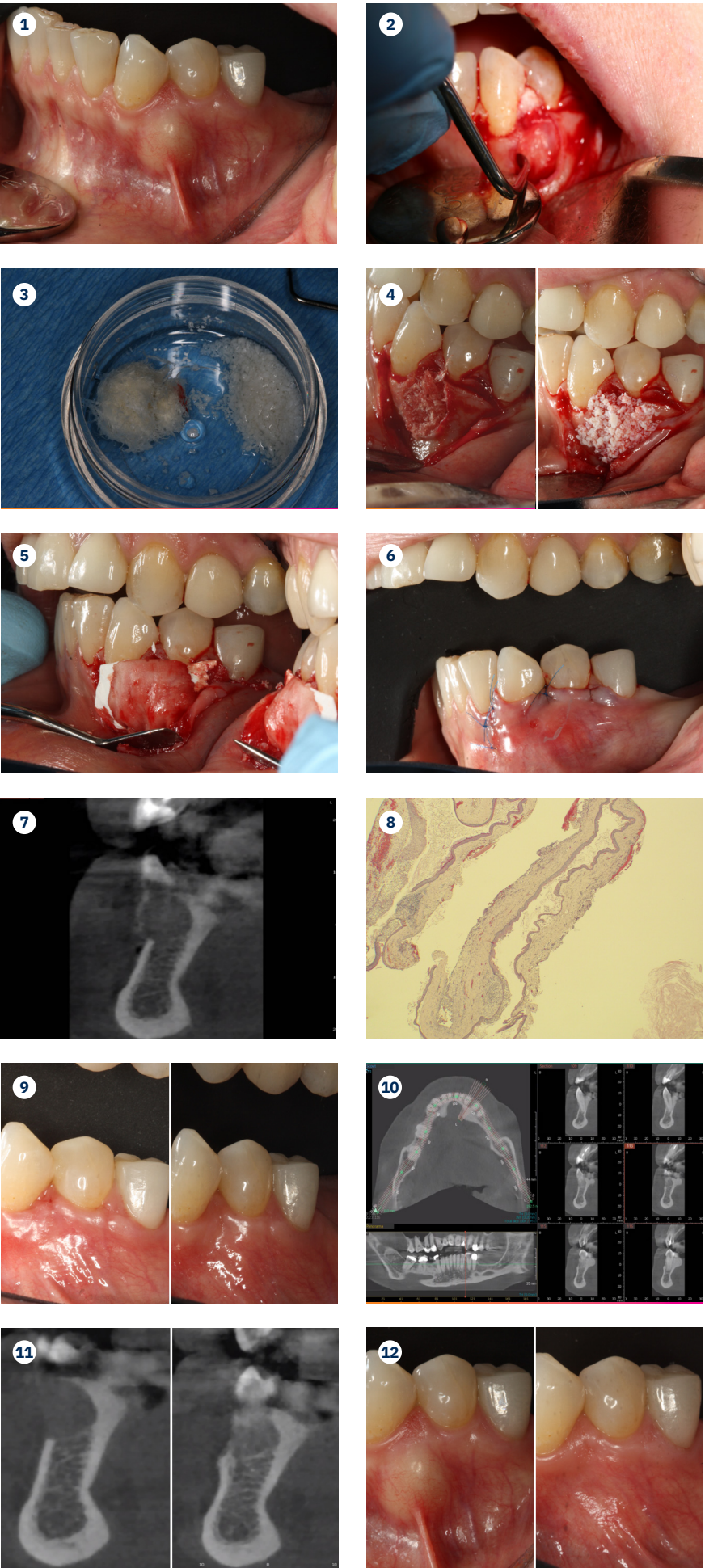
Complete excision of pathology and biopsy followed by GTR using vallos®f internally for maximum osteogenic/osteoinductive potential and Geistlich Bio-Oss® externally for space maintenance showed excellent radiographic bone fill and stable periodontium.

- 1
- Initial clinical and radiographic presentation showing buccal soft tissue enlargement and bone loss #21-22 area.
- 2
- Clinical facial view showing full thickness flap reflection with complete enucleation of cystic lesion (excisional biopsy).
- 3
- Clinical view showing hydration of vallos®f demineralized fibers and Geistlich Bio-Oss® as two separate grafts.
- 4
- Clinical facial view showing placement of vallos®f internally for maximum osteogenic/osteoinductive potential and Geistlich Bio-Oss® externally for space maintenance.
- 5
- Clinical facial view showing placement of Geistlich Bio-Gide® covering the defect and extending one tooth mesillay and distally.
- 6
- Clinical facial view showing primary closure using 6-0 prolene sutures.
- 7
- CBCT immediately post-surgery showing radiolucent allograft internally for osseinduction and radiopaque xenograft externally for space maintenance.
- 8
- After flap elevation at 4 months showing, the new buccal bone plate together with a completely filled alveolus.
- 9
- Clinical facial views showing healing at 2 and 4 weeks with proper soft tissue healing.
- 10
- 6 months post-surgery radiographic presentation showing stable periodontium and proper bone fill #21-22 area.
- 11
- Comparison of Pre- and post-surgical CBCT views showing good bone formation.
- 12
- Comparison of Pre- and post-surgical clinical views showing stable periodontium.

“Guided tissue regeneration using vallos®f demineralized fibers (allograft as an internal first layer), Geistlich Bio-Oss® (as an outside second layer), and collagen membrane showed predictable periodontal regeneration.”



Click or scan to access the video tutorial



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Dr. Kinaia is the Associate Director of the Graduate Periodontology Program at the University of Detroit Mercy (UDM). He is also the former Director of the Periodontology Program at UDM in Michigan and Boston University Institute for Dental Research and Education in Dubai. He is a Diplomate of the American Academy of Periodontology (AAP) and International Congress of Oral Implantology (ICOI). He received a certificate of Excellence from the AAP in recognition of teaching-research fellowship.



“Excisional biopsy and guided tissue regeneration is indicated to treat the pathology (#21-22 area) and stabilize the periodontium.”

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Keys to Success



- Use of collagen membrane to reduce epithelial downgrowth during GTR procedure.
- Excisional biopsy for correct diagnosis.
- The use of monofilament non-resorbable mattress sutures to obtain primary closure and protect the grafted area.
- Recall program (periodontal maintenance every 3 months and annual examination) is key to monitor the healing.



- Guided tissue regeneration using vallo^sf internally for maximum osteoinductive potential and using Geistlich Bio-Oss[®] second for better space maintenance and optimal regeneration.



For more information, please visit:
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For more information on contraindications, precautions, and directions for use, please refer to the Instructions for Use at:
<https://ifu.geistlich-pharma.com/>