LEADING REGENERATION

Geistlich Biomaterials

BioBrief

Minor Bone Augmentation

Prof. Dr. Porus Turner

Staged Approach in Hard Tissue Grafting, followed by Implant Placement.

The Situation

Patient had a vertical root fracture due to trauma which required extraction and delayed implant placement. The extraction site had a chronic infection so particular precautions were taken before grafting.

All infected granulation tissue was completely curetted out right up to the bare bone. A staged approach was planned, Guided Bone Regeneration followed by Implant placement to meet aesthetic expectation of patient.

The Risk Profile

Risk Factors	Low Risk	Medium Risk	High Risk
Patient's health	Intact immune system	Light smoker	Impaired immune system
Patients 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 site	None	Chronic	Acute
Bone height at adjacent tooth	≤ 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 (≥ 7mm)	1 tooth (≤ 7 mm)	2 teeth or more
Soft tissue anatomy	Intact		Compromised
Bone anatomy of alveolar ridge	No defect	Horizontal defect	Vertical defect

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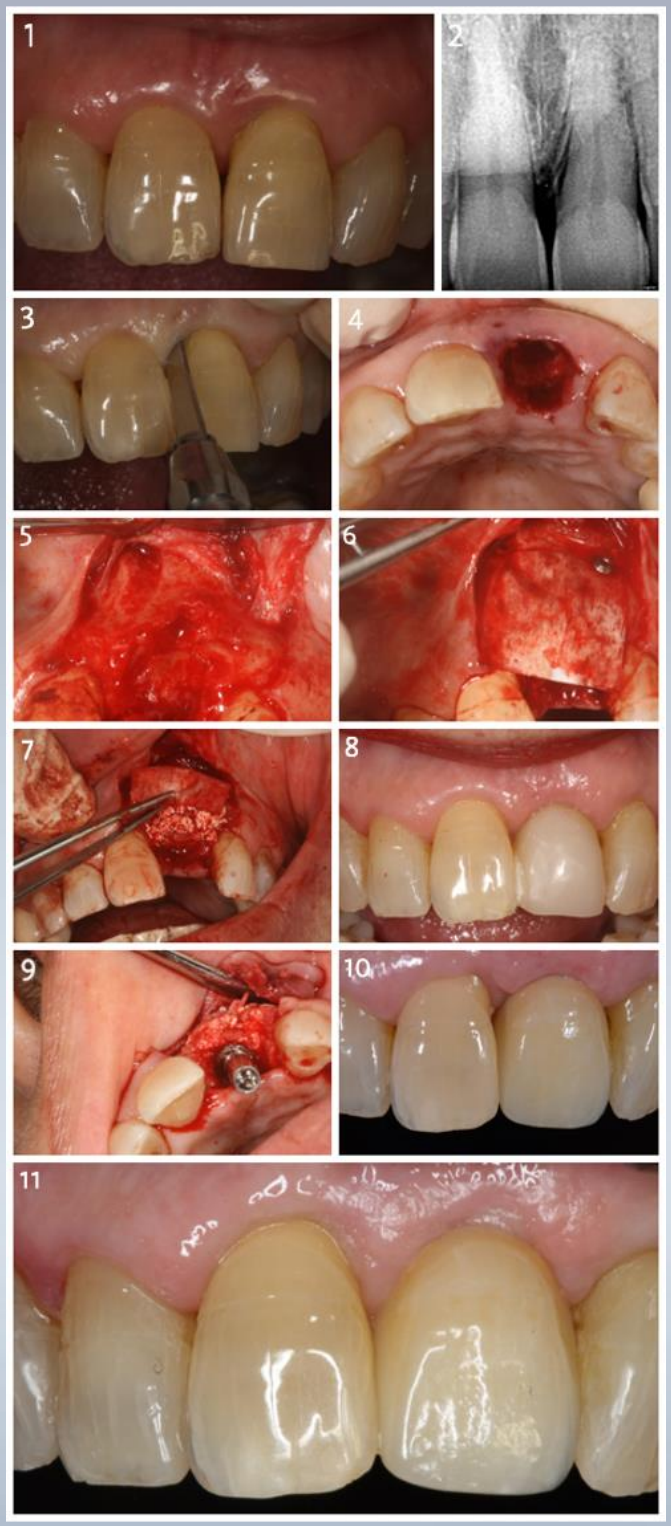
Professor Emeritus A.B. Shetty Institute of Dental Sciences, NITTE University, Mangalore, India. He is past President and Accredited member of Indian Academy of Aesthetic and Cosmetic Dentistry and Principal Faculty for Dr. Turners' Specialty (CDE) courses. He has **27** Original Publications to his credit. He has authored books on Restorative dentistry and on Oral Implantology.
He is accredited tutor for Master of Oral Implantology courses of Goethe University, Frankfurt Germany. He attended Microsurgical Training & Advanced Implant therapy with Hard & Soft Tissue grafting under Dr. Otto Zuhr & Prof. Markus Hürzeler in Munich, Germany. He has done Advanced Hard & Soft Tissue Regeneration course under Prof. Istvan Urban in Budapest, Hungary.



The Approach

Extraction site had chronic infection. Therefore, special caution was taken before grafting the extraction socket. This involved through cleaning & treatment with antibiotics. It was decided to do a staged procedure using only 10% in weight of autogenous bone harvested from adjacent sites & remaining 90% in weight was Geistlich Bio-Oss®. Graft was stabilized with Geistlich Bio-Gide® membrane & tacking pins. An implant was placed after 6 months of healing time ensuring excellent bone regeneration.

The Outcome

Staged procedure resulted in excellent regeneration of lost bone & made it possible to place implant in correct 3D position with at least 2 mm of buccal bone.

1. Pre-op situation. II 2. Pre-op IOPA, vertical root fracture visible. II 3. First Surgery, severing periodontal fibers with a micro-blade. II 4. The Socket after atraumatic extraction. II 5. Bone harvested from Nasal Spine. II 6. Geistlich Bio-Gide® membrane, tacked using pins. II 7. Geistlich Bio-Oss® graft mixed with autogenous bone chips in ratio of 90% :10% by weight. II 8. Temporary crown placed after 10 days. II 9. Second surgery, Implant placed after 6 months. II 10. Final crown placement after 3 months of implant placement. II 11. Regeneration of Papilla seen 2 years after implant placement.

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Keys to Success

- ✓ Staged approach helped in excellent bone regeneration.
- ✓ Stabilization of graft with membrane & tacking pins
- ✓ Correct 3D placement of Implant.

"Geistlich Bio-Oss® and Geistlich Bio-Gide® are well documented grafting material which helped in stable bone regeneration & subsequent implant placement."

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