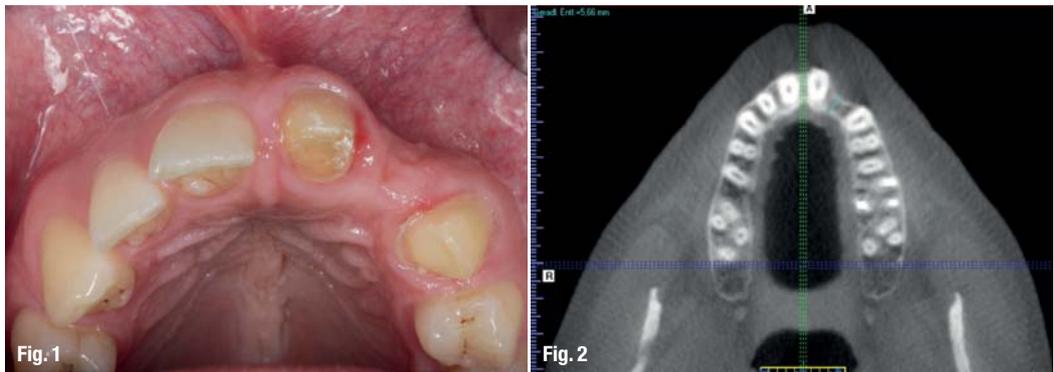


Reconstruction of a horizontal ridge defect using the bone lamina technique

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Fig. 1 Localised horizontal ridge defect. The treatment plan was to place a single implant to replace the lateral incisor.

Fig. 2 A CBCT scan of the defect. The residual ridge width was 5.6 mm.



In the case presented, the treatment plan was to place a single implant in the aesthetically demanding anterior maxillary region in the place of the left lateral incisor. A moderate horizontal ridge defect was present and the residual bone width was 5.6 mm. A staged approach

employing a guided bone regeneration technique with a porcine partially demineralised cortical lamina (OsteoBiol Soft Cortical Lamina, TecnoSS Dental) was chosen. A porcine bone substitute (OsteoBiol mp3, TecnoSS Dental) was used as a filler material.

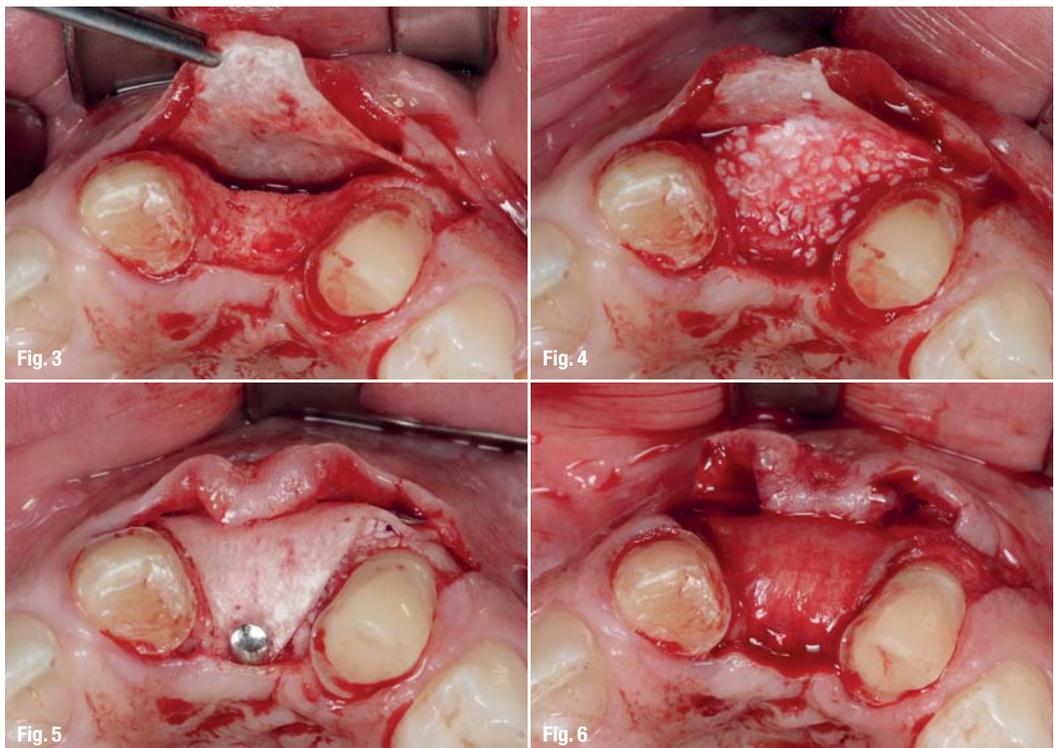
Fig. 3 Once a full thickness flap had been reflected, the buccal plate was reconstructed using OsteoBiol Soft Cortical Lamina. The lamina was secured using titanium pins.

Fig. 4 The defect was filled with OsteoBiol mp3.

Fig. 5 The lamina was shaped such that it could be folded over the coronal aspect of the filler material.

A titanium pin was used to secure the lamina here too.

Fig. 6 The lamina itself was covered with a collagen membrane to allow for rapid soft-tissue integration.



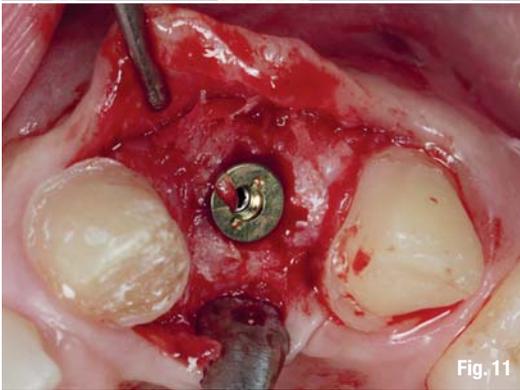
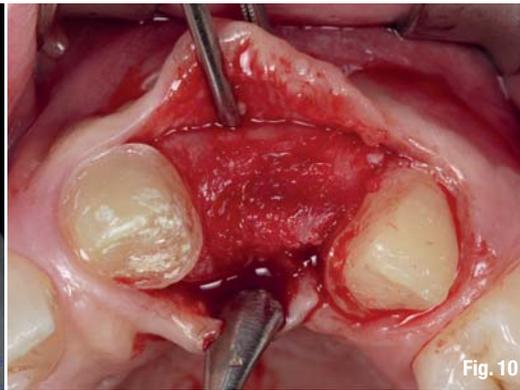
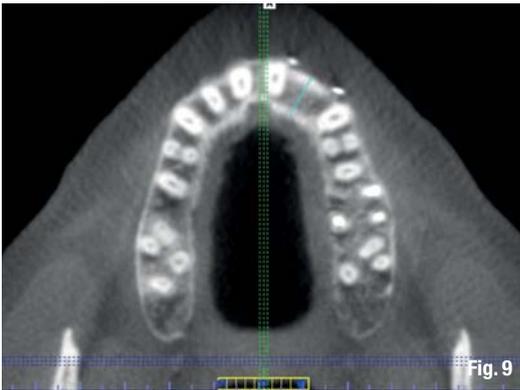
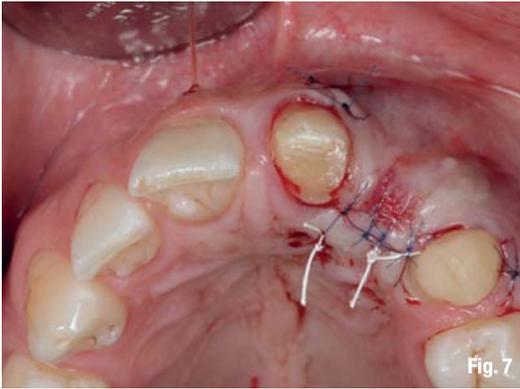


Fig. 7_ Meticulous, tension-free soft-tissue closure is crucial for successful regeneration.
Fig. 8_ The clinical situation after six months of healing.
Fig. 9_ A CBCT scan showing the regenerated area. The ridge width was increased to 10.3 mm. A new cortical plate and cancellous compartment are visible.
Fig. 10_ Upon reflection of a full thickness flap, the regenerated tissue is visible. The tissue has a good blood supply and remnants of the lamina are present.
Fig. 11_ It was possible to place an implant of 3.8 mm in diameter in the correct 3-D position as planned.
Fig. 12_ The regenerated ridge before restorative treatment.

After the augmentation procedure, the lamina was covered with a collagen membrane to allow for rapid soft-tissue integration. The augmentation surgery was completed with meticulous flap closure using microsurgical techniques.

After a healing period of six months, an implant of 3.8 mm in diameter and 11 mm in length was placed according to the restorative planning.

Finally, an all-ceramic crown was seated on the zirconia abutment.

The images of the final result demonstrate clearly that an aesthetically pleasing outcome was achieved by employing the bone augmentation technique described.

Fig. 13_ The final situation six months after seating the all-ceramic restoration.
Fig. 14_ A periapical radiograph six months after restorative treatment.



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