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Utilising EthOss in Guided Bone Regeneration

Patient Medical History:

34-year-old male patient with insignificant medical history.

Missing tooth 14 with an increased mesial-distal space of 15mm from 15 to 13 that is adequate for 2 premolars.

The following treatment options were discussed with the patient:

- Orthodontic management
- Removable partial denture
- Fixed 4-unit tooth supported cement retained bridge
- A fixed 2 implants supported 2-unit screw-retained prosthesis

The patient preferred the latter option despite the requirement for significant bone grafting.

Treatment and procedure:

There was significant vertical and horizontal hard tissue deficiency, where implant stability would be a concern at both implant sites (images 1-3).

The decision was made to first carry out independent grafting throughout this region, including the maxillary sinus. A combination of BioOss was used in the sinus cavity via lateral window and ample EthOss was used at the buccal aspect to cover the window as well as ridge build-up both vertically and horizontally (images 4 & 5).

Initial graft review

After 5 months of graft consolidation, CBCT indicated general improvement of bony volume where implant stability could now be achieved (images 6 & 7).

Implant placement

2 x Nobel Biocare CC TiUltra implants were placed at sites 14M and 14D with 35Ncm of primary stability. More EthOss was used throughout the region to cover any exposed threads on the buccal or to improve buccal plate stability a 2-stage protocol was utilised. (images 8 & 9).

4-month implant review

4 months after implant placement, CBCT indicated acceptable bony envelopment over both implants in all aspects. During stage 2 surgery, ISQ were measured to be more than 80 out of 100 at both implant sites (images 10 & 11).

Final restoration

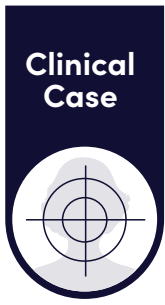
The case was then transferred back to the referring dentist for construction of a 2-unit splinted screw retained prosthesis (images 12-14).

PA was taken to confirm crestal bone level and fitting of the impression copings.

A 2-unit splinted screw-retained PFZ prosthesis was constructed and issued. The occlusion was controlled to be a shimstock clearance during maximum clench and out of contact during lateral excursion (images 15 & 16).

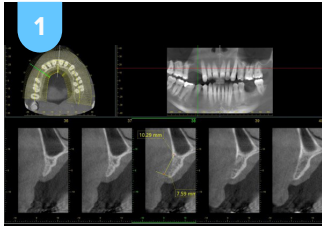
Conclusion:

EthOss appears to be a suitable grafting material for the regeneration of lost bony tissue. This material could be used independently prior to implant placement and simultaneously at the time of implant placement.

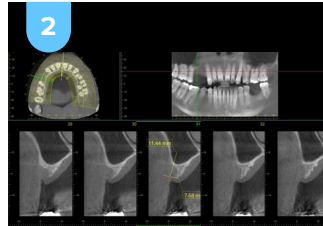


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Case Images:



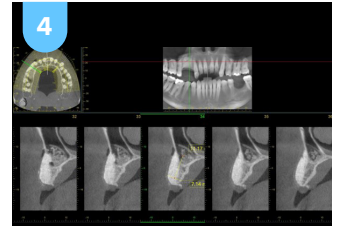
Site 14M – pre-op



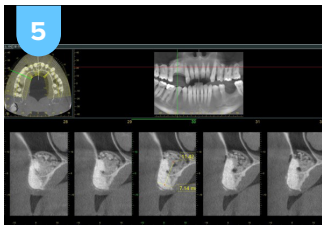
Site 14D – pre-op



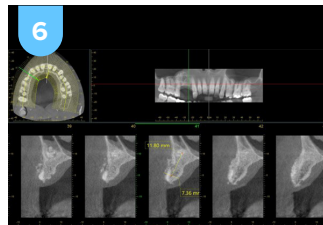
Intra Oral pre-op



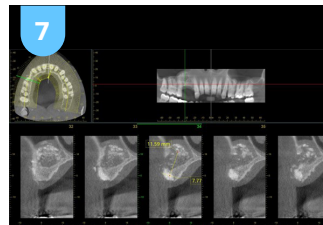
Site 14M - immediate post GBR



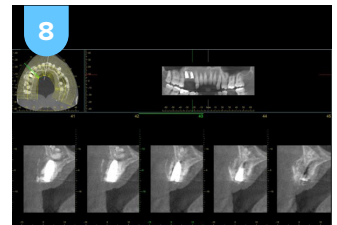
Site 14D – immediate post GBR



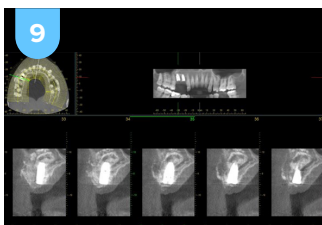
Site 14M – 5 months post-grafting



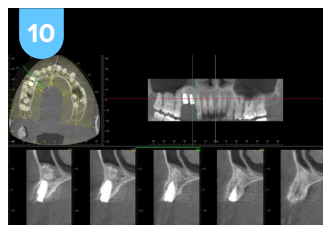
Site 14D – 5 months post-grafting



Site 14M – immediate post-implant placement



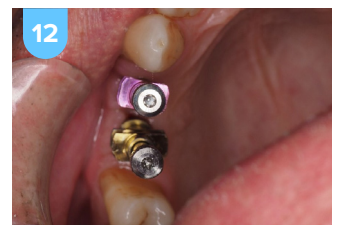
Site 14D – immediate post-implant placement



Site 14M – 4 months post-implant placement



Site 14D – 4 months post-implant placement



Open tray impression copings connected



PA was taken to confirm fitting of the impression copings



Splinting of impression copings to construct a 2-unit splinted prosthesis



Final prosthesis - During lateral excursion



Final prosthesis - Occlusal view

About Dr Ben Lee:

Ben completed a MSc in Prosthodontics from the University of Sydney. He frequently presents on the topic of dental implants and fixed prosthodontics nationally. As a prosthodontist, Ben works full-time in private practice in Sydney, with particular interest in the surgical aspects of dental implant treatment.