

Scientific Challenges beyond Osseointegration

5

5 mm of vertical bone regeneration under I-Gen Ti mesh

DAVIDE FARRONATO¹, Andrea Alain Orsina², Pietro Mario Pasini², Alice Ronchetti², Davide Fumagalli⁴, Luca Moscatelli⁵

¹ Assistant Professor, University of Insubria, Department of Surgical and Morphological Science, Italy

² Resident, University of Insubria, Department of Surgical and Morphological Science, Italy

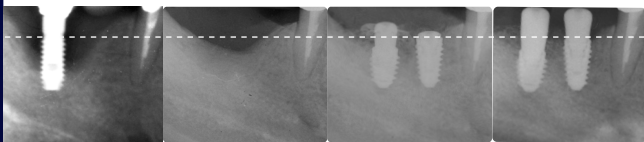
³ Student, University of Insubria, Department of Surgical and Morphological Science, Italy

⁴ Student, University of Milan, School of Dentistry, Italy

⁵ Freelance Odontologist, Erba, Italy

Object

For an implant rehabilitation it is mandatory to have a sufficient vertical and horizontal bone quantity. When these requirements are not met, it becomes necessary to proceed with GBR techniques. The aim of this work is to report a case of implant surgery with posterior jaw bone regeneration with (5mm) with I-Gen Ti mesh.



Materials and Methods

In this case an implant failed, due to a peri-implantitis, was removed leaving a horizontal and vertical bone defect. A 4 x 8,5 (mesially) and 4 x 7 (distally) Anyridge fixture were placed in the bone defect and an I-Gen was fixed through an healing abutment over the distal implant to determine the new bone profile. Autologous bone was therefore collected using a Safescraper and mixed with FDHB (Freeze Dried Human Bone). The bone compound was placed under the protection of the titanium mesh. Afterward a pericardium membrane was adapted and placed above the I-Gen. Primary wound closure was ensured by periosteal releasing incision and sutured with horizontal mattress alternated with single sutures. Second stage surgery was performed after 5 months and impressions taken 2 weeks later. Provisional stage lasted 6 months to allow soft tissue maturation. One year after the implant positioning a new set of impressions was taken and definitive crowns were placed.

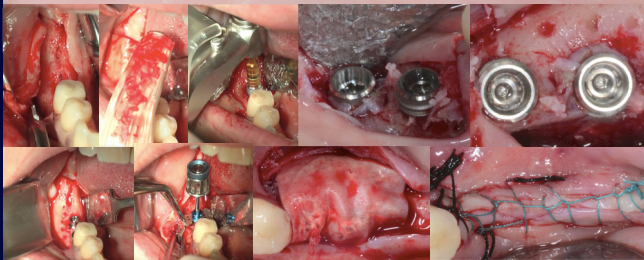
Results

The above-presented case shows no clinical or radiographical signs of bone resorption and has satisfactory soft tissues results at the second follow up (2 years).

Conclusions

The use of titanium mesh is a safe technique for regenerating missing bone and allows the clinician to work with enough buccal bone, which is crucial to obtain predictable results for the soft tissues and, therefore, aesthetic. Whenever the receiving site is appropriate, patients has no major contraindication to undergo surgery and there's a low quantity of bone, this technique is a safe, tested way to obtain the results according to a correct treatment plan.

2YPO



References

- 1 Maiorana C, Santoro F, Rabagliati M, Salina S. Evaluation of the use of iliac cancellous bone and anorganic bovine bone in the reconstruction of the atrophic maxilla with titanium mesh: a clinical and histologic investigation. Int J Oral Maxillofac Implants. 2001 May-Jun;16(3):427-32.
- 2 Rakhmatia YD, Ayukawa Y, Furuhashi A, Koyano K. Current barrier membranes: titanium mesh and other membranes for guided bone regeneration in dental applications. J Prosthodont Res. 2013 Jan;57(1):3-14.
- 3 Rocuzzo M, Ramieri G, Bunino M, Berrone S. Autogenous bone graft alone or associated with titanium mesh for vertical alveolar ridge augmentation: a controlled clinical trial. Clin Oral Implants Res 2007;18:286-94.
- 4 Palacci P, Nowzari H. Soft tissue enhancement around dental implants. Periodontol 2000. 2008;47:113-32.