

Peri-implantitis surgical treatment with xenograft and L-PRF

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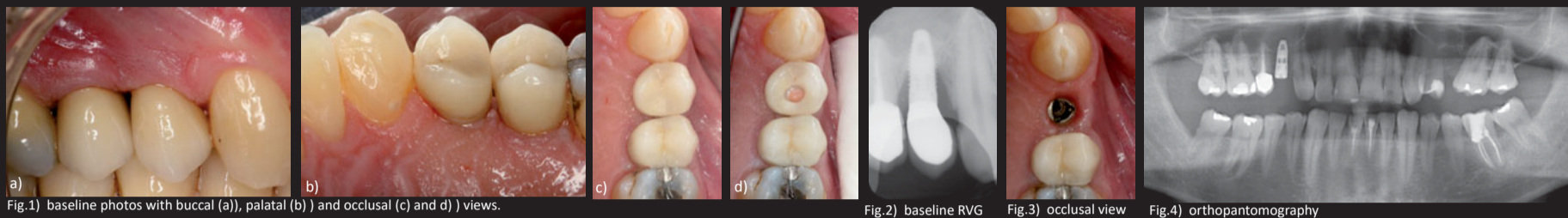
Aim:

The aim of the present work is to present a clinical case regarding peri-implantitis surgical treatment with a xenograft/L-PRF block.

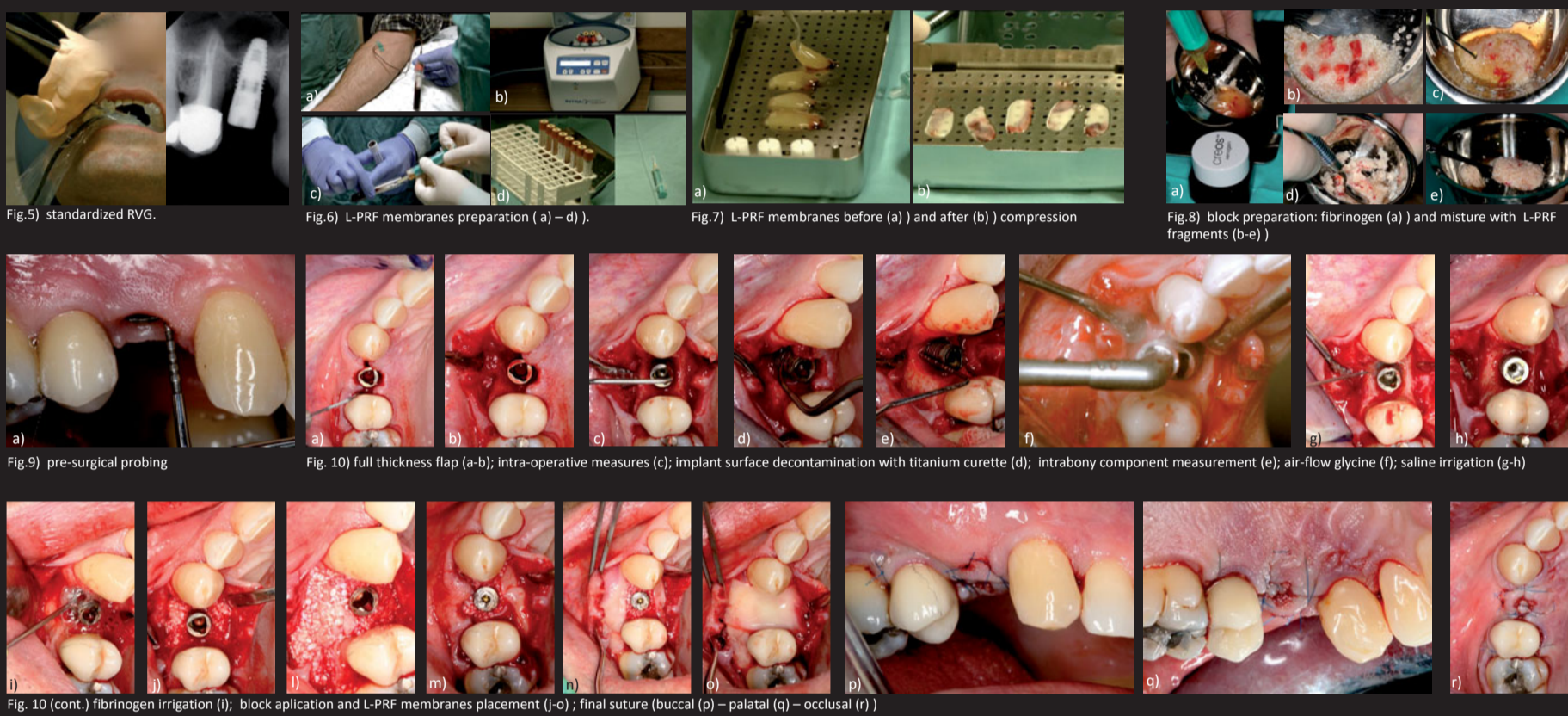
Clinical Case Presentation:

A healthy non-smoker male was diagnosed with peri-implantitis (PI) at implant 14 (Nobel Replace®, 4.3x13, Nobelbiocare, Switzerland)(PD=8mm; BOP (db+dp) and radiographic bone loss) which was in function since 6 years. After performing a standardized x-ray (RVG) a venipuncture was performed and L-PRF membranes prepared (Choukroun et al. 2001). A xenograft (Creos xenogain®, NobelBiocare, Switzerland) was mixed with exudate and L-PRF fragments in order to obtain a block. A mucoperiosteal flap was raised, peri-implant defect exposed (CI Id) (Schwarz et al. 2007) and titanium surface decontaminated with a titanium curette and air-flow glycine. Implant surface was rinsed with fibrinogen and PI defect carefully filled with the block. Finally L-PRF membranes covered the defect and flap was sutured leaving the implant submerged. After 15 days sutures were removed and controls performed at week 1, 2 and months 1, 2, 3 and 9 (clinical and radiography performed).

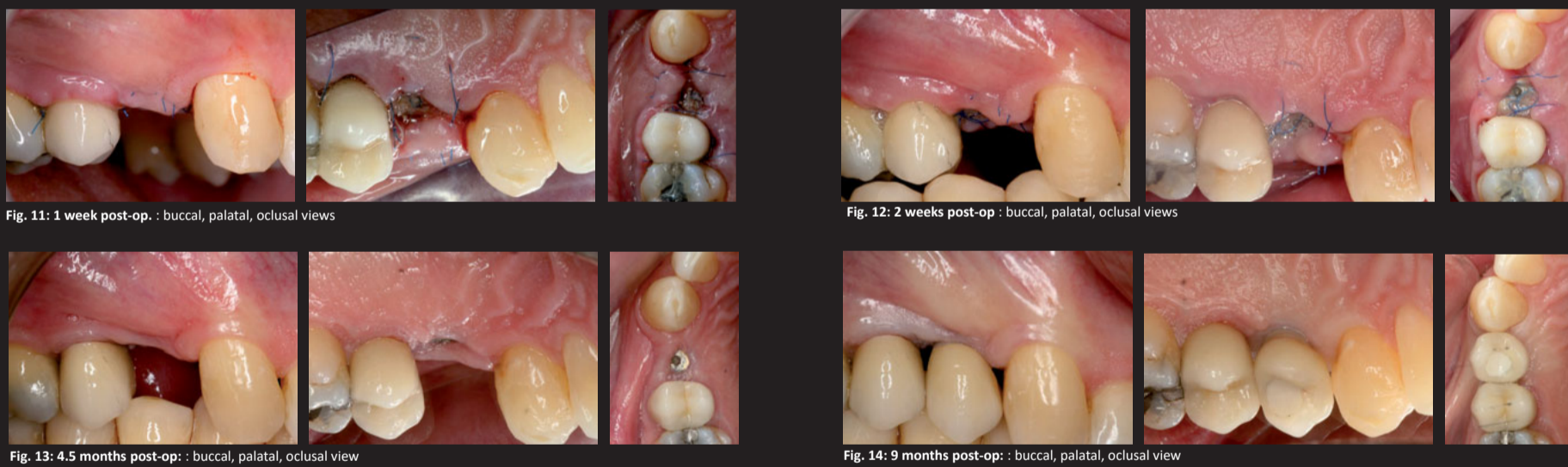
Baseline



Surgery



Results



		MB	B	DB	MP	P	DP	mean±SD
PD (mm)		8	8	7	8	6	6	7.17±0.98mm
BOP	0m	∅	∅	1	∅	∅	1	
	Sup	∅	∅	∅	∅	∅	∅	
PD (mm)		3	3	3	4	3	4	3.33±0.52mm
BOP	9m	∅	∅	∅	∅	∅	∅	
	Sup	∅	∅	∅	∅	∅	∅	

Table 1: Clinical parameters at baseline (0m) and 9months follow-up: PD (Probing Depth); BOP (Bleeding on Probing); Sup (Suppuration)

	Intrabony vertical component (mm)		
	mesial	distal	mean±SD
0m	4.97	3.86	4.40±0.78
9m	1.05	0.00	0.53±0.74

Image 1: RVG at baseline (a) and 9 months (b) (adjacente alveolar crest – bottom of the defect: yellow-line)

Table 2: Intra-bony vertical component

Discussion:

According to the authors knowledge this is the first presented case of PI treatment with a xenograft/L-PRF block. Peri-implantitis regenerative treatment still needs further investigation (Schwarz et al. 2015). Presently there is no treatment protocol accepted by the general clinical and research community. An effective decontamination that will not cause implant surface changes is crucial for treatment success and glycine air-flow presents those characteristics (Schwarz et al. 2016, Sahrman et al. 2015). According to some clinical studies PI regenerative treatment with xenograft resulted in favorable results in less demanding defects (Schwarz et al. 2006). We also know that L-PRF increases the time-dependent proliferation of osteoblasts and reduces osteolysis due to increasing the release of osteoprotegerin (Chang et al. 2010). A recent systematic review already demonstrated L-PRF major healing ability in periodontology (Castro et al. 2017). PI treatment depends on defect configuration (Schwarz et al. 2010) and the L-PRF/xenograft block allows a higher biomaterial stability and also their application on more demanding peri-implant defects. Other authors had a PD decrease with only L-PRF (Hamzacebi et al. 2015). Our radiographic results demonstrated the radiographic gain of bone volume in major PI defects.

Conclusion:

This clinical case presented the clinical and radiographic resolution of a more biological demanding peri-implant defect.