0,66mm

SHORT-TERM MARGINAL PERI-IMPLANT BONE LOSS ASSOCIATED WITH PLATFORM SWITCHED IMPLANTS: A PROSPECTIVE COMPARATIVE SPIT MOUTH STUDY.

UNIVERSITÀ DEGLI STUDI DI MILANO

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OBJECTIVES

To inquire regarding the presence of significant differences between platform matched and platform switched implant connections, with respect to the development of peri-implant saucerization and to its extent.

MATERIALS AND METHODS

From 2012 to 2014, 10 patients (4 males and 6 females, aged between 23 and 59 - mean 40.9 years), presenting with single tooth symmetric bounded edentulous spaces in the posterior maxilla or mandible, were treated with the insertion of a platform matched implant (BEGO Semados® S-Implants, BEGO Implant SystemsTM) in one site and of a platform switched implant (OsseoSpeed® TX 4.0 S, Astra Tech Implant SystemTM) in the symmetric contralateral one. All edentulous sites did not require bone regeneration in order to place 4mm implants with a minimum length of 8mm. All patients received implants with matching lengths in the two symmetric sites. Patients were followed up from 12 to 30 months (mean 20,4) after prosthetic finalization.

Fig 1-3. Pre-operative OPT and clinical evaluation

Fig. 4-8 Implants placement

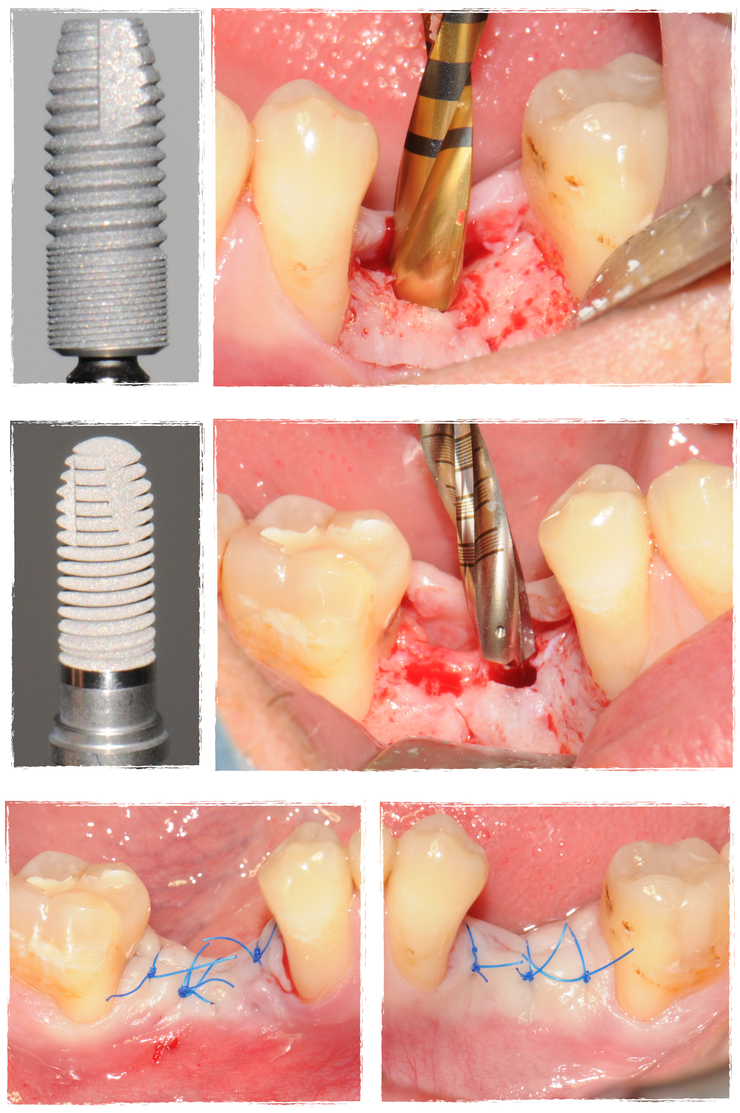
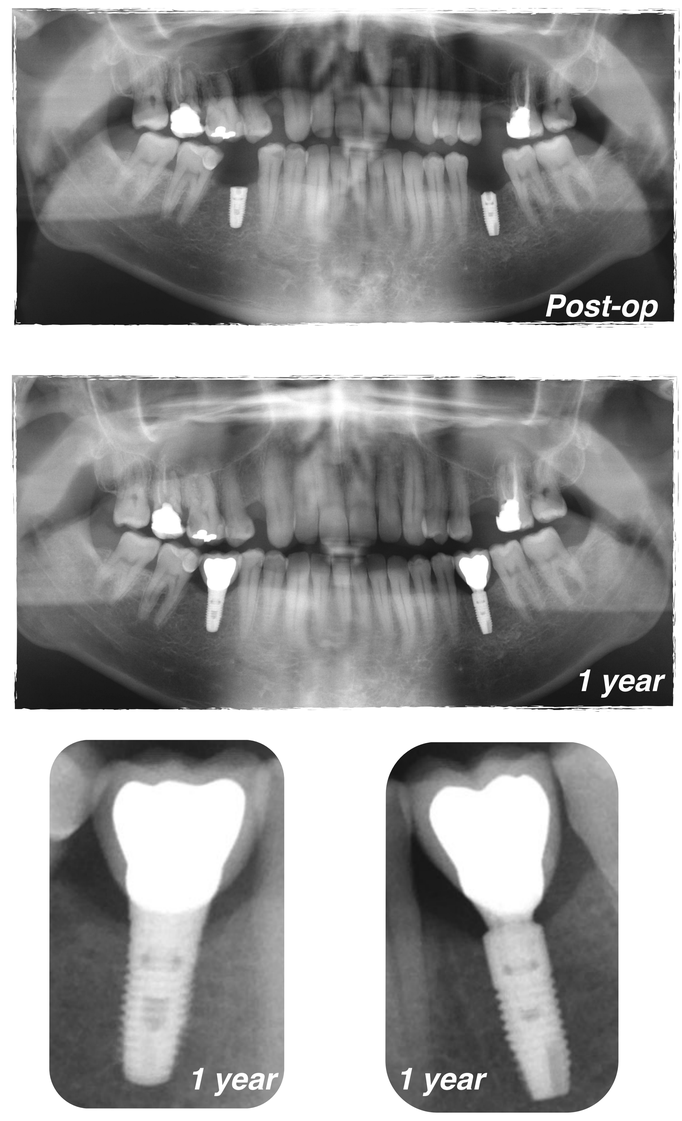


Fig. 9-12 Radiographic follow-up



Group	N of implants	Mean Follow-up	Mean FMPS	Mean FMBS	Mean PPD	Mean Peri-Implant Vertical Bone Resorpiton	% Implant Success	% Implant Survival
Control	10	20,4 months	16%	8%	3,9 mm	**2,14mm**	90%	100%
Study	10	20,4 months	16%	8	3,63 mm	**0,66mm**	90%	100%

RESULTS

All patients were evaluated at their last recall with a periodontal chart and a periapical radiograph, standardized through the customization of a Rinn's film holder. No implant was lost or removed. A single patient, presenting at the one year recall with inadequate oral hygiene, reported severe peri-implant bone resorption in both sites treated. 9 out of 10 patients reported successful outcomes according to Albrektsson et al. criteria. Periodontal probing revealed no significant differences between study and control sites (study group: mean 3,63mm; control group: mean 3,9mm). However, the evaluation conducted on the periapical radiographs through an image processing and analysis software, revealed a consistent reduction in the extent of vertical peri-implant marginal bone resorption around the platform switched implants (mean 0,66 mm) compared to the platform matched ones (mean 2,14 mm). Such difference was observed in almost all patients at different follow-up times from prosthetic finalization, suggesting how the benefits of a platform switched connection can be observed both at a short term (12 months) and longer term (30 months) follow-ups.

CONCLUSION

Results from this study suggest that a platform switched implant connection can reduce the extent of vertical peri-implant marginal bone resorption, thus containing the saucerization process commonly observed around two-piece submerged platform matched implants.

References

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