



Immediate, early (6 Weeks) and delayed (4 months) single post-extractive implants: 3-year post-loading data from a randomised controlled trial

ABSTRACT

When implant rehabilitation is needed, two main approaches are available, both with advantages and disadvantages: the delayed implant placement after healing of the socket and the implant placement immediately after tooth extraction. Also a third approach is available, featuring a compromise between the other two: the early approach, consisting in placing implants after soft tissue healing, usually after 2 to 6 weeks. The aim of this study was to compare the clinical outcomes of single implants placed immediately after tooth extraction with those placed 6 weeks after tooth extraction (early approach), and those placed 4 months after extraction and socket healing (delayed placement).

For this parallel-group design study, 210 patients requiring one single implant-supported crown after tooth extraction were selected and randomly allocated into 3 groups of 70 patients each to receive immediate, early (at 6 weeks), or delayed (after 4 months of healing) post-extraction implants. When needed, patients had bone substitute grafts in the extraction socket, covered with a resorbable membrane. The bone substitute used was a sticky paste made of 600-1000 µm pre-hydrated collagenated cortico-cancellous granules of porcine origin (OsteoBiol® mp3®, Tecnos®, Giaveno, Italy) mixed with collagen gel in a sterile syringe. The grafted area was covered with a resorbable membrane derived from equine pericardium (OsteoBiol® Evolution, Tecnos®). In delayed sites bone preservation procedures were performed, only in "aesthetic" areas or in case of severely damaged site using the same biomaterials.

No statistically significant differences in failures, complications or patient satisfaction were observed between the three approach, even though failures were more frequent in immediate and early implants. Bone loss was significantly smaller at immediate implants, and aesthetic evaluation scores were higher for immediate and early implants.

CONCLUSIONS

It is opinion of the Authors that the decision on which approach to adopt remains in the hands of clinicians and patients, who have to decide between a potentially higher risk of failures and complications associated with immediate and early implants, against shorter treatment times and slightly better aesthetic outcomes.

With reference to site preservation procedures, the Authors underline that they "are able to better preserve the site dimensions than not implementing any".

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