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Implant placement in fresh extraction sockets and simultaneous osteotome sinus floor elevation: a case series

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ABSTRACT

In the posterior maxilla, implant placement immediately after tooth extraction is frequently complicated by the presence of the maxillary sinus and by a lack of adequate bone volume and quality, thus preventing a precise placement and stabilization of the implants. Therefore, in these situations, normally a maxillary sinus augmentation is performed, followed by implant placement in the reconstructed bone.
The purpose of this study was to evaluate the clinical success of implants placed in fresh extraction sockets with simultaneous maxillary sinus floor elevation using the osteotome technique.
12 patients (7 men and 5 women) aged 38 to 56 years were included in this study, requiring the extraction of a maxillary premolar and scheduled for immediate implant placement. The graft materials used in both sinus floor augmentation and peri-implant bone defects were a mixture of collagen gel and cortico-cancellous porcine bone particles (OsteoBiol® *Gel 40*, Tecnoss®, Giaveno, Italy), covered with bioabsorbable membranes (OsteoBiol® *Evolution*, Tecnoss®). The resulting graft material was extremely easy to handle because the collagen gel acted as a sealing material.
All implants were allowed to heal for 6 months prior to prosthetic rehabilitation. One of the 12 experimental implants failed because of an abscess during early healing. No implants failed after definitive prosthetic rehabilitation. No significant bone loss was detected at the final follow-up visit. 18 months after surgery, mean bone gain evaluated by radiographies was 4,2±1,4 mm.

CONCLUSIONS

The results of this study demonstrate that the use of the osteotome technique in order to obtain the sinus floor elevation and the implant placement in fresh extraction sockets can be considered a predictable procedure. Thanks to the lateral condensation of bone performed by this technique during the preparation of the implant site, the resulting bone quality seems to be improved.

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