



Ridge Preservation Combined With Open Barrier Membrane Technique in Case of Postextractive Oroantral Communication: A Case Series Retrospective Study

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Abstract

Contributor Notes

After dental extraction, a physiological phenomenon of reabsorption of the dentoalveolar process is triggered, especially if periradicular lesions are present, which can sometimes be associated with oroantral communication in the upper posterior maxilla. To investigate a minimally invasive approach, 19 patients undergoing tooth extraction in the posterosuperior maxilla were recruited. All cases presented an oroantral communication with a diameter of 2–5 mm after tooth extraction and the alveolar process and, in some cases, with a partial defect of 1 or more bony walls. In these cases, a single surgical procedure was used to preserve the alveolar ridge using an open barrier technique with an exposed dense polytetrafluoroethylene membrane. The bottom of the extraction socket was filled with a collagen fleece. The residual bone process was reconstructed using a biomaterial based on carbonate-apatite derived from porcine cancellous bone. After 6 months, all patients were recalled and subjected to radiographic control associated with an implant-prosthetic rehabilitation plan. Data relating to the sinus health status and the average height and thickness of the regenerated bone were collected. Radiographic evaluation verified the integrity of the maxillary sinus floor with new bone formation, detecting a vertical bone dimension between 3.1 mm and 7.4 mm (average 5.13 ± 1.15 mm) and a horizontal thickness between 4.2 mm and 9.6 mm (average 6.86 ± 1.55 mm). The goal of this study was to highlight the advantage of managing an oroantral communication and, simultaneously, obtain the preservation and regeneration of the alveolar bone crest. The open barrier technique appears to be effective for the minimally invasive management of oroantral communication up to 5 mm in diameter in postextraction sites, with a good regeneration of hard and soft tissue.

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