



Maxillary sinus floor elevation using Beta-Tricalcium-Phosphate (beta-TCP) or natural bone: same inflammatory response

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Résumé en anglais

Sinus elevation is a common procedure to increase bone volume in the atrophic maxilla to allow placement of dental implants. Autogenous bone is the gold standard but is limited in quantity and causes morbidity at the donor site. β -TCP is a synthetic biomaterial commonly used in that purpose. It appears to induce a poor inflammatory response. This study aimed to evaluate the degree of edema of the sinus mucosa after sinus lift surgery according to the type of biomaterial. Forty sinuses (20 patients) were included retrospectively and divided into 2 groups according to the biomaterial that was used: synthetic biomaterial (BTCP group), natural bone (BONE group). A control group (CTRL group) was constituted by the non-grafted maxillary sinuses. Twelve measurements per sinus were realized on pre- and post-operative computed tomography and averaged to provide the sinus membrane thickness value (SM.Th). SM.Th was thicker post-operatively in the BTCP and BONE groups in comparison with the CTRL group and in comparison with pre-operative measurements. No difference was found post operatively between the BTCP and BONE groups. We found that a synthetic biomaterial (β -TCP) induced the same degree of edema, and thus of inflammation, as natural bone. It constitutes therefore an interesting alternative to autogenous bone for maxillary sinus lifts.

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