



Sinus lift augmentation and β -TCP: A microCT and histologic analysis on human bone biopsies

Submitted by Emmanuel Lemoine on Tue, 06/10/2014 - 11:22

Titre	Sinus lift augmentation and β -TCP: A microCT and histologic analysis on human bone biopsies
Type de publication	Article de revue
Auteur	Chappard, Daniel [1], Guillaume, Bernard [2], Mallet, Romain [3], Pascaretti-Grizon, Florence [4], Baslé, Michel-Félix [5], Marchand-Libouban, H��l��ne [6]
Editeur	Elsevier
Type	Article scientifique dans une revue �� comit�� de lecture
Ann��e	2010
Langue	Anglais
Date	2010/06
Num��ro	4
Pagination	321 - 326
Volume	41
Titre de la revue	Micron
ISSN	0968-4328
Mots-cl��s	MicroCT [7], Osteoconduction [8], Sinus lift augmentation [9], Tricalcium phosphate [10], β -TCP [11]

R  sum   en anglais

Sinus lift elevation is an interesting method to restore bone mass at the maxilla in edentulated patients. We have investigated the histological effects of beta tricalcium phosphate (β -TCP) combined with autograft bone for sinus lift elevation. A series of 14 patients who were candidate for dental implantation were grafted with β -TCP granules and morcellized autograft bone harvested at the chin. β -TCP was characterized by scanning electron microscopy and optical profilometry. Before implant placement, a small bone biopsy (2 mm in diameter) was done. The amount of residual material and newly formed bone were determined by microcomputed tomography. Histological analysis was done on undecalcified sections stained by Goldner's trichrome and osteoclast identification (TRAcP). β -TCP served as a template for bone apposition by osteoblasts onto the granules' surface. The material was simultaneously resorbed by TRAcP positive osteoclasts and macrophages. Fragments of the material remained buried in bone trabeculae as long as 12 months post-graft but the formed bone onto the granules surface had a lamellar texture. β -TCP combined with autograft bone appears a suitable biomaterial for sinus lift augmentation before the placement of bone implants. The material favors the apposition of lamellar bone by osteoblasts and is simultaneous resorbed by two types of cells.

URL de la notice	http://okina.univ-angers.fr/publications/ua3310 [12]
DOI	10.1016/j.micron.2009.12.005 [13]
Lien vers le document	http://dx.doi.org/10.1016/j.micron.2009.12.005 [13]

Liens

- [1] <http://okina.univ-angers.fr/daniel.chappard/publications>
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=4601](http://okina.univ-angers.fr/publications?f[author]=4601)
- [3] <http://okina.univ-angers.fr/romain.mallet/publications>
- [4] <http://okina.univ-angers.fr/f.pascaretti/publications>
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=3650](http://okina.univ-angers.fr/publications?f[author]=3650)
- [6] <http://okina.univ-angers.fr/helene.libouban/publications>
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=7139](http://okina.univ-angers.fr/publications?f[keyword]=7139)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=7153](http://okina.univ-angers.fr/publications?f[keyword]=7153)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=7246](http://okina.univ-angers.fr/publications?f[keyword]=7246)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=7247](http://okina.univ-angers.fr/publications?f[keyword]=7247)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=7248](http://okina.univ-angers.fr/publications?f[keyword]=7248)
- [12] <http://okina.univ-angers.fr/publications/ua3310>
- [13] <http://dx.doi.org/10.1016/j.micron.2009.12.005>

Publié sur *Okina* (<http://okina.univ-angers.fr>)