

## Wie würden Sie diesen Fall heute lösen?

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- [1] den Hartog, L., et al., Treatment outcome of immediate, early and conventional single-tooth implants in the aesthetic zone: a systematic review to survival, bone level, soft tissue, aesthetics and patient satisfaction. *J Clin Periodontol*, 2008. 35(12): p. 1073-86.
- [2] Slagter, K.W., et al., Immediate placement of dental implants in the esthetic zone: a systematic review and pooled analysis. *J Periodontol*, 2014. 85(7): p. e241-50.
- [3] Weigl, P. and A. Strangio, The impact of immediately placed and restored single-tooth implants on hard and soft tissues in the anterior maxilla. *Eur J Oral Implantol*, 2016. 9 Suppl1: p. S89-106.
- [4] Mellinghoff J: Erste klinische Ergebnisse zu dentalen Schraubenimplantaten aus Zirkondioxid. *Z Zahnärztl. Impl.* 2006; 22:288-293.
- [5] Oliva J, Oliva X, Oliva JD. Five-year success rate of 831 consecutively placed zirconia dental implants in humans: a comparison of three different rough surfaces. *Int J Oral Maxillofac Implants.* 2010 Mar-Apr; 25(2):336-44
- [6] Bächle M, Butz F, Hübner U, Bakalinis E, Kohal RJ. Behavior of CAL72 osteoblast-like cells cultured on zirconia ceramics with different surface topographies. *Clin Oral Implants Res.* 2007;18(1):53-9.
- [7] Koch FP, Wenig D, Krämer S, Biesterfeld S, Jahn-Imercacher A, Wagner W. Osseointegration of one-piece zirconia implants compared with a titanium implant of identical design: a histomorphometric study in the dog. *Clin Oral Implants Res.* 2010;21(3):350-6.
- [8] Depprich R, Zipprich H, Ommerborn M, Mahn E, Lammers L, Handschel J, Naujoks C, Wiesmann HP, Kübler NR, Meyer U. Osseointegration of zirconia implants: a SEM observation of the bone-implant interface. *Head Face Med.* 2008 Nov 6;4:25.
- [9] Depprich R, Zipprich H, Ommerborn M, Naujoks C, Wiesmann HP, Kiattavorncharoen S, Lauer HC, Meyer U, Kübler NR, Handschel J. Osseointegration of zirconia implants compared with titanium: an in vivo study. *Head Face Med.* 2008 Dec 11;4:30.
- [10] Thoma DS, Benic GI, Muñoz F, Kohal R, Sanz Martin I, Cantalapiedra AG, Hämmerle CH, Jung RE. Histological analysis of loaded zirconia and titanium dental implants: an experimental study in the dog mandible. *J Clin Periodontol.* 2015 Oct;42(10):967-75.
- [11] Roehling S, Astasov-Frauenhoffer M, Hauser-Gerspach I, Braissant O, Woelfler H, Waltimo T, Kniha H, Gahlert M. In Vitro Biofilm Formation on Titanium and Zirconia Implant Surfaces. *J Periodontol.* 2017 Mar;88(3):298-307.

- [12] Osteoinductive potential of a novel biphasic calcium phosphate bone graft in comparison with autographs, xenografts, and DFDBA. Miron RJ, Sculean A, Shuang Y, Bosshardt DD, Gruber R, Buser D, Chandad F, Zhang Y. *Clin Oral Implants Res*. 2016 Jun;27(6):668-75. doi: 10.1111/clr.12647. Epub 2015 Jul 30.
- [13] Protocol for Bone Augmentation with Simultaneous Early Implant Placement: A Retrospective Multicenter Clinical Study. Fairbairn P, Leventis M. *Int J Dent*. 2015;2015:589135. doi: 10.1155/2015/589135. Epub 2015 Nov 24.
- [14] Osteoinductive potential of 4 commonly employed bone grafts. Miron RJ<sup>1,2,3,4</sup>, Zhang Q<sup>5</sup>, Sculean A<sup>6</sup>, Buser D<sup>7</sup>, Pippenger BE<sup>8</sup>, Dard M<sup>9</sup>, Shirakata Y<sup>10</sup>, Chandad F<sup>11</sup>, Zhang Y<sup>12</sup> *Clin Oral Investig*. 2016 Nov;20(8):2259-2265. Epub 2016 Jan 27.
- [15] Bone Healing in Rabbit Calvaria Defects Using a Synthetic Bone Substitute: A Histological and Micro-CT Comparative Study Minas Leventis 1,\* OrcID, Peter Fairbairn 2, Chas Mangham 3, Antonios Galanos 4, Orestis Vasiliadis 1, Danai Papavasileiou 1 and Robert Horowitz 5 *Materials* 2018, 11(10), 2004; <https://doi.org/10.3390/ma11102004> (registering DOI)
- [16] Biological response to  $\beta$ -tricalcium phosphate/calcium sulfate synthetic graft material: an experimental study. Leventis MD<sup>1</sup>, Fairbairn P, Dontas I, Faratzis G, Valavanis KD, Khaldi L, Kostakis G, Eleftheriadis *Implant Dent*. 2014 Feb;23(1):37-43. doi: 10.1097/ID.0000000000000030.
- [17] Bone regeneration using beta-tricalcium phosphate in a calcium sulfate matrix. Podaropoulos L<sup>1</sup>, Veis AA, Papadimitriou S, Alexandridis C, Kalyvas D *J Oral Implantol*. 2009;35(1):28-36. doi: 10.1563/1548-1336-35.1.28.
- [18] Bone regeneration with calcium sulfate: evidence for increased angiogenesis in rabbits. Strocchi R<sup>1</sup>, Orsini G, Iezzi G, Scarano A, Rubini C, Pecora G, Piattelli AJ *Oral Implantol*. 2002;28(6):273-8.
- [19] Calcium and phosphate ions as simple signaling molecules with versatile osteoinductivity. Ali Akbari Ghavimi S<sup>1</sup>, Allen BN, Stromsdorfer JL, Kramer JS, Li X, Ulery BD *Biomed Mater*. 2018 Jun 14;13(5):055005. doi: 10.1088/1748-605X/aac7a5.
- [20] Osteogenic differentiation of mesenchymal stem cells (MSCs) induced by three calcium phosphate ceramic (CaP) powders: A comparative study. Li Y, Jiang T, Zheng L, Zhao J. *Mater Sci Eng C Mater Biol Appl*. 2017 Nov 1;80:296-300. doi: 10.1016/j.msec.2017.05.145. Epub 2017 Jun 1.
- [21] Osteoinductive porous biphasic calcium phosphate ceramic as an alternative to autogenous bone grafting in the treatment of mandibular bone critical-size defects. Santos PS<sup>1</sup>, Cestari TM<sup>1</sup>, Paulin JB<sup>1</sup>, Martins R<sup>1</sup>, Rocha CA<sup>1</sup>, Arantes RVN<sup>1</sup>, Costa BC<sup>2</sup>, Dos Santos CM<sup>2</sup>, Assis GF<sup>1</sup>, Taga R<sup>1</sup>. *J Biomed Mater Res B Appl Biomater*. 2018 May;106(4):1546-1557. doi: 10.1002/jbm.b.33963. Epub 2017 Jul 29.
- [22] Biphasic calcium phosphate ceramics for bone reconstruction: A review of biological response. Bouler JM<sup>1</sup>, Pilet P<sup>2</sup>, Gauthier O<sup>3</sup>, Verron E<sup>4</sup> *Acta Biomater*. 2017 Apr 15;53:1-12. doi: 10.1016/j.actbio.2017.01.076. Epub 2017 Jan 31.
- [23] Filling bone defects with  $\beta$ -TCP in maxillofacial surgery: A review. Guillaume B<sup>1</sup>. *AUG HORI Morphologie*. 2017 Sep;101(334):113-119. doi: 10.1016/j.morpho.2017.05.002. Epub 2017 May 29.

- [24] Comparison of ectopic bone formation process induced by four calcium phosphate ceramics in mice. Tang Z1, Tan Y1, Ni Y1, Wang J1, Zhu X1, Fan Y1, Chen X1, Yang X2, Zhang X3 *Mater Sci Eng C Mater Biol Appl*. 2017 Jan 1;70(Pt 2):1000-1010. doi: 10.1016/j.msec.2016.06.097. Epub 2016 Jul 1.
- [25] Hydroxyapatite/beta-tricalcium phosphate biphasic ceramics as regenerative material for the repair of complex bone defects. Rh Owen G1, Dard M2, Larjava H1. *J Biomed Mater Res B Appl Biomater*. 2018 Aug;106(6):2493-2512. doi: 10.1002/jbm.b.34049. Epub 2017 Dec 20.
- [26] Osseointegration of hydroxyapatite and remodeling-resorption of tricalciumphosphate ceramics. Draenert M1, Draenert A, Draenert K *Microsc Res Tech*. 2013 Apr;76(4):370-80. doi: 10.1002/jemt.22176. Epub 2013 Feb 7.
- [27] Inflammatory-Driven Angiogenesis in Bone Augmentation with Bovine Hydroxyapatite, B-Tricalcium Phosphate, and Bioglasses: A Comparative Study. Anghelescu VM1,2, Neculae I1,2, Dincă O1,2, Vlădan C1,2, Socoliuc C1,3, Cioplea M3, Nichita L1,3, Popp C3, Zurac S1,3, Bucur A1,2. *J Immunol Res*. 2018 Sep 12;2018:9349207. doi: 10.1155/2018/9349207. eCollection 2018.
- [28] The Risk of Prion Infection through Bovine Grafting Materials. Kim Y, Rodriguez AE, Nowzari H. *Clin Implant Dent Relat Res*. 2016 Dec;18(6):1095-1102. doi: 10.1111/cid.12391. Epub 2016 Feb 8.
- [29] Risk of prion disease transmission through bovine-derived bone substitutes: a systematic review. Kim Y1, Nowzari H, Rich SK. *Clin Implant Dent Relat Res*. 2013 Oct;15(5):645-53. doi: 10.1111/j.1708-8208.2011.00407.x. Epub 2011 Dec 15.
- [30] Fresh-Frozen Bone Allografts in Maxillary Alveolar Augmentation: Analysis of Complications, Adverse Outcomes, and Implant Survival. Deluiz D1,2, Oliveira L2, Fletcher P3, Pires FR4, Nunes MA5, Tinoco EM1 *J Periodontol*. 2016 Nov;87(11):1261-1267. Epub 2016 Jul 1.
- [31] Khoury, F., Augmentive Verfahren in der oralen Implantologie. *Quintessenz* 2009
- [32] Block allograft for reconstruction of alveolar bone ridge in implantology: a systematic review. Araújo PP1, Oliveira KP, Montenegro SC, Carreiro AF, Silva JS, Germano AR *Implant Dent*. 2013 Jun;22(3):304-8. doi: 10.1097/ID.0b013e318289e311.