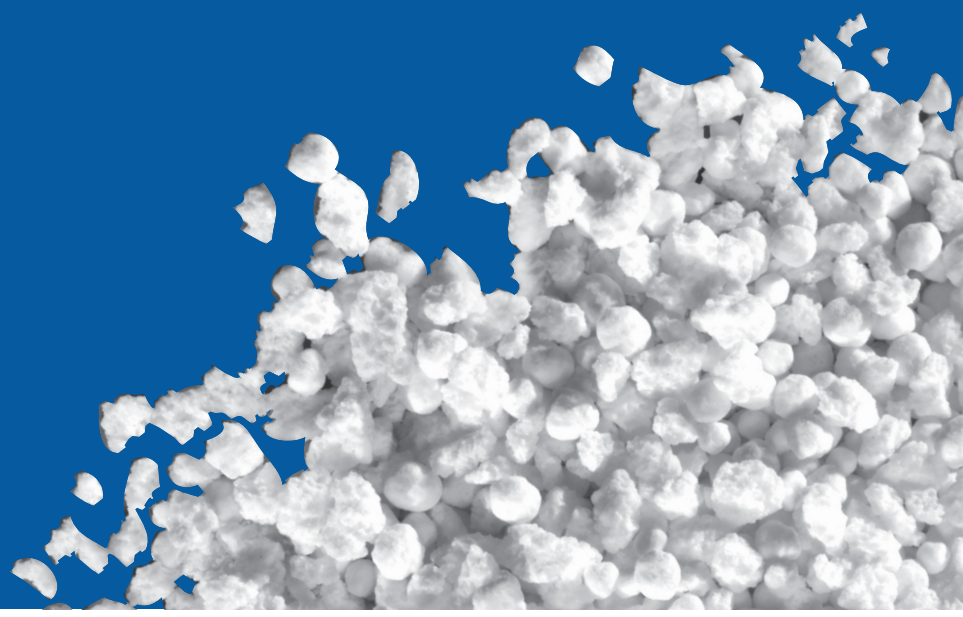
Comprehensive Oral Surgery Technologies

Bone Regeneration with CERASORB®

Literature



RIEMSER

CERASORB® - over a million units sold

CERASORB® is the product of choice for successful bone augmentation in numerous dental, oral & maxillofacial and periodontal practices.

CERASORB® resorbs without residue during bone remolding and is replaced by natural bone → restitutio ad integrum, which is the main objective of bone regeneration.

Benefits that are appreciated worldwide!

Documented safety!
With over 135 scientific publications, **CERASORB®** is one of the best documented synthetic bone regeneration materials.

Saves you time!
Thanks to the synthetic nature of **CERASORB®** the patient education procedure is quick and simple.

More satisfied patients!
CERASORB® has more than 12 years of successful clinical experience.

CERASORB® - the development from 1970-2010

The history of β-tricalcium phosphate spans almost 40 years. The same scientists who were intensely involved in the early research in the filed of biomaterials also contributed to the development of synthetic β-TCP, which was later developed into a successful biomaterial under the trade name **CERASORB®**.

In the early 1970's, the first fundamental research was done in the filed of synthetic bone augmentation at the Battelle Institute in Frankfurt, Germany. It soon became evident that β-tricalcium phosphate was superior to other materials. This lead to the development of the first prototypes of granular materials and blocks.

CERASORB® has turned into a product family that offers a suitable modification for various indications. All forms are optimized in regards to their functional surface area, porosity and resorption behavior.

2012

Gruber A, Hübner WD (2012):
Knochenersatz mit Cerasorb® in der orthopädischen Chirurgie/ Unfallchirurgie und Handchirurgie – Eine 10-Jahresstudie.
Lecture at the „18. Rheuma-Winter-Symposium, 'Innovative Rheumachirurgie und Nachbehandlungskonsequenzen'", January 21, 2012, RTZ Nürnberg/Germany, Abstract in German.

"Prospective long-term study with 102 patients with the following indications: trauma, rheumatism, tumour. There were no allergic reactions or material-caused complications. In nearly all cases the long- term follow-up showed a complete osseointegration and resorption of Cerasorb®. Over the course of 10 years the synthetic bone graft Cerasorb® has proven to be an alternative to autologous spongiosa as bone void filler."

2011

Batista MA, Leivas TP, Rodrigues CJ, Arenas GC, Belitardo DR, Guarniero R (2011):
Comparison between the effects of platelet-rich plasma and bone marrow concentrate on defect consolidation in the rabbit tibia.
Clinics (Sao Paolo) 2011; 66 (10): 1787-1792.

"20 rabbits with bone defects in the proximal tibia were randomly treated with β-tricalciumphosphate and PRP or BMC. After four weeks all animals showed good bone consolidation. The evaluation revealed a greater amount of consolidation and the formation of greater cortical bone thickness in the PRP group."

Luvizuto ER, Tangl S, Zanoni G, Okamoto T, Sonoda CK, Gruber R, Okamoto R (2011):
The effect of BMP-2 on the osteoconductive properties of β-tricalcium phosphate in rat calvaria defects.
Biomaterials. 2011 May; 32 (15): 3855-3861. Epub 2011 Mar 3.

"Rat calvaria critical sized defects were treated with Cerasorb®, different other bone void fillers and autografts. The authors conclude that the osteoconductive properties of β-TCP Cerasorb® are superior to those of autografts and that TCP does not require BMP-2 supplementation."

2010

Ghanaati S, Barbeck M, Orth C, Willershausen I, Thimm BW, Hoffmann C, Rasic A, Sader RA, Unger RE, Peters F, Kirkpatrick CJ (2010):
Influence of β-tricalcium phosphate granule size and morphology on tissue reaction in vivo. Acta Biomater 2010, Dec; 6 (12): 4476-4487. Epub 2010 Jul 23.

"Five different β-tricalcium phosphate based bone substitute materials induced the formation of TRAP-positive multinucleated giant-cells as a sign of biomaterial stability. These cells directly influenced the vascularisation by secretion of VEGF as well as other chemokines."

Kebernik M, Palm F (2010):
Die Sinusbodenelevation und ihre Risiken. [Sinus floor augmentation and its risks.]
Oralchirurgie Journal 2010, 1: 14-18. Article in German.

"The application of autologous bone alone gives no advantage compared to a mixture of bone and bone regeneration material (Cerasorb® M) regarding implant survival rate."

2009

Berger S, Kaufmann MM, Siebert CH (2009):
Knochenersatzstoffe bei Pfannenwechsel – ein verlässlicher Weg bei älteren Patienten? [Bone replacement materials in hip revision surgery – a reliable way in elder patients?]
Lecture No. 235 at the "57. Jahrestagung der Vereinigung Süddeutscher Orthopäden e.V.", Baden-Baden, Germany, May 1, 2009. Orthopädische Praxis, Special Edition 2009, p. 189. Abstract in German.

"Also in elder patients synthetic bone void fillers can be used in hip revision surgery isolated or in combination with allogenic bone successfully."

Bernhardt A, Lode A, Hänel T, Peters F, Gelinsky M (2009):
Perfusion culture of osteogenic induced mesenchymal stem cells on milled β-tricalcium phosphate (β-TCP) scaffolds.
Poster presentation, 3rd CRTD summer conference on regenerative medicine, Dresden, 26.06.2009.

"Ceramic scaffolds from pure β-TCP with large interconnecting channels are suitable for expansion and osteogenic differentiation of hMSC in vitro."

Bernstein A, Mayr HO, Görz L, Siebert C (2009):
Tissue Engineering von osteochondralen Defekten auf der Basis von resorbierbaren Scaffolds.
[Tissue engineering of osteochondral defects based on resorbable scaffolds.]
Poster presentation, Deutscher Kongress für Orthopädie und Unfallchirurgie, Berlin,
21.10.2009. Poster in German.

"Mesenchymal stem cells from the bone-narrow of sheep were isolated and cultivated in vitro under a standardized procedure. It could be shown, that the mesenchymal the stem-cells as well as the chondrocytes could be cultivated on the scaffolds without any problem. Microporous TCP-implants are suitable for tissue-engineering."

Elmohandes WA (2009):
Evaluation of Cerasorb® M as a bone graft used for sinus lift and dental implant installation. Abstract No. O10.12 in: Abstracts of the 19th International Conference on Oral and Maxillofacial Surgery, Shanghai, China, 23-27 May, 2009. International Journal of Oral and Maxillofacial Surgery, May 2009, 38 (5): p. 499 of 397-608.

"The X-ray revealed complete or nearly complete degradation of the beta-tricalcium phosphate granules with concurrent bone substitution in the majority of cases in 12 months post grafting. The implants showed good stability 12 months after installation."

Hänel T, Peters F, Hoffmann C, Dürr H (2009):
Aus CT-Daten generierte patientenindividuelle Implantate aus β-Tricalciumphosphat für die Knochenregeneration. [Patient individual β-TCP implants for bone regeneration generated from CT-data.] Regenerative Medizin 2009, 2 (1): 13-17. Article in German.

"Individual implantable biomaterials as ready-to-use product, which is fast, direct and true to size implantable in a bone defect, are a further step in the development of easy and riskless bone regeneration."

Harnack L, Boedeker RH, Kurtulus I, Boehm S, Gonzales J, Meyle J (2009):
Use of platelet-rich plasma in periodontal surgery-a prospective randomised double blind clinical trial. Clin Oral Investig. 2009 Jun; 13 (2): 179-187.

"22 patients showing contralateral intrabony defects were treated with β-TCP Cerasorb® alone or in combination with PRP. β-TCP is a satisfactory graft material in periodontal surgery, even without PRP."

Herten M, Rothamel D, Schwarz E, Friesen K, Koegler G, Becker J (2009):
Surface- and nonsurface-dependent in vitro effects of bone substitutes on cell viability. Clin Oral Investig. 2009 Jun; 13 (2): 149-155. Epub 2008 Aug 8.

"In an in-vitro study with 6 different bone substitutes and 3 different cell lines, Cerasorb® showed very good cell viability factors with adherent and non-adherent cell cultures."

Horowitz RA, Mazor Z, Miller RJ, Krauser J, Prasad HS, Rohrer MD (2009):
Clinical evaluation of alveolar ridge preservation with a β-tricalcium phosphate socket graft. Compendium; 2009 Dec; 30(9): 588-603.

"Clinical measurements showed preservation of alveolar width, and histologic analysis demonstrated both resorption of β-TCP (Cerasorb®) and conversion to vital alveolar bone. These characteristics make this graft material ideal for use after tooth extraction in conventional and implant dentistry."

Horowitz RA, Rohrer MD, Prasad HS, Mazor Z (2009):
Enhancing Extraction - Socket Therapy. The Journal of Implant & Advanced Clinical
Dentistry. 2009 Sept; 1 (6): 47-59.

"The predictable formation of vital bone in the extraction sockets treated with β-TCP of this and other studies has led to 100 % success rates in implant placement and loading."

Knabe C, Berger G, Gildenhaar R, Koch Ch, Axmann I, Jonscher S, Rack A, Ducheyne P, Stiller M (2009):
Effect of rapidly resorbable calcium-alkali-orthophosphate bone grafting materials on osteogenesis after sinus floor augmentation in sheep.
Society For Biomaterials. 2009 Annual Meeting and Exposition. April 22-25, 2009, San
Antonio, Texas; 1 page. Abstract.

"Of the various grafting materials studied, GB9/25 showed the best bone bonding and regenerative behaviour, closely followed by β-TCP."

Lange T, Schilling AF, Peters F, Haag F, Morlock MM, Rueger JM, Amling M (2009):
Proinflammatory and osteoclastogenic effects of beta-tricalciumphosphate and hydroxyapatite particles on human mononuclear cells in vitro.
Biomaterials; 2009 Oct; 30(29):5312-5318.

"1 micron-sized particles of pure β-TCP lead to a lower rate of particle- associated osteoclastogenesis and subsequent particle-induced inflammation and bone resorption than hydroxyapatite particles of the same size."

Meyer C, Chatelain B, Benarroch M, Garnie JF, Ricbourg B, Camponovo T (2009):
Greffes sinusiennes massives par phosphate tricalcique. Résultats à long terme. [Massive sinus-lift procedures with β-tricalcium phosphate: Long-term results].
Rev Stomatol Chir Maxillofac. 2009 Apr; 110 (2): 69-75. Epub 2009 Jan 25. Article in French.

"In 20 patients a total number of 33 sinus lift procedures by means of β-TCP Cerasorb® were performed. The mean postoperative follow-up was 4.5 years. The implant success rate was 97.6%."

Nitsch A, Gruber R, Daevers INC, Patyk A, Merten HA (2009):
Sinusbodenaugmentation mit β-Tricalciumphosphat und plättchenreichem Plasma. [Sinus floor elevation with β-tricalcium phosphate and Platelet Rich Plasma.]
ZWR 2009, 118 (6): 276-287. Article in German.

"In 29 patients an augmentation of sinus maxillaris with β-TCP or β-TCP and PRP was performed. The histomorphologic findings showed a progredient hydrolytic β-TCP degradation and cellular resorption of the ceramic fragments. The addition of PRP showed no difference."

Peters F, Hübner WD (2009):
Bone Regeneration with β-Tricalcium Phosphate: New Aspects.
In: Kossler W, Fuchs J: Bioceramics (2009): Properties, Preparation and Applications. Pages 265-275.

"Review on 40 years research and development of β-tricalciumphosphate and Cerasorb®."

Pretzsch M, Ebert S, John G, Bader A, Deiwick A, von Salis-Soglio G (2009):
Einwachsverhalten von stammzellbesiedelten Knochenersatzkonstrukten bei "critical-size"- Defekten im Kleintiermodell.
[Ingrowth behaviour of bone void fillers after stem-cell cultivation in "critical-size"-defeats in a small animal model.]
Poster presentation, Deutscher Kongress für Orthopädie und Unfallchirurgie, Berlin,
23.10.2009. Poster in German.

"β-TCP cylinders (10 x 6 mm, curasan AG) could be shown as ideal scaffolds for bone-narrow mesenchymal stem-cells."

Rupprecht M, Münch C, Barvencik F, Busse B, Rueger JM, Amling M (2009):
β-Tricalciumphosphat in der Stabilisierung von Tibiakopffrakturen - Klinische Langzeitergebnisse bei 52 Patienten sowie histologische und rasterelektronenmikroskopische Subgruppenanalyse.
[Stabilisation of tibia head fractures with β-TCP – Clinical long term results in 52 patients as well as histologically and electron microscopically subgroup evaluation.]
Presentation, Deutscher Kongress für Orthopädie und Unfallchirurgie, Berlin, 23.10.2009.
Abstract presentation in German.

"Metaphyseal defects of the tibia head can be stabilized sufficiently with β-TCP, where β-TCP is osseointegrated dependent on the particle-size without negative impact on bone regeneration."

2008

Handschel J, Berr K, Depprich R, Naujoks C, Kubler NR, Meyer U, Ommerborn M, Lammers L. (2008):
Compatibility of Embryonic Stem Cells with Biomaterials.
J Biomater Appl. 2008, Aug 29, [Epub ahead of print].
doi:10.1177/0885328208094305, (p. 1-12).

"Insoluable collageneous bone matrix followed by β-TCP Cerasorb® are the most suitable materials for bone tissue engineering regarding cell proliferation and phenotype. The embryonic stem cells have direct contact with the β-TCP. Especially on Cerasorb® M the cells seem to creep into the material."

Knabe C, Koch C, Rack A, Stiller M (2008):
Effect of beta-tricalcium phosphate particles with varying porosity on osteogenesis after sinus floor augmentation in humans. Biomaterials 2008, 29: 2249-2258.

"2 groups of 10 patients each were treated with Cerasorb® and Cerasorb® M. After 6 months, bone formation and matrix mineralization were still actively progressing in the tissue surrounding the particles. In the Cerasorb® M-group, bone formation and particle degradation had already reached a more advanced stage."

Plenk H, Lederer J (2008):
Cerasorb®: Materialkundliche Grundlagen und klinisch-histomorphologische Erfahrungen. [Cerasorb®: Material science and clinical-histomorphological experiences.]
Zahn Krone, 2008, 5: 16-20. Article in German.

"In both granulate forms of Cerasorb®, a progredient growth of woven bone around and in particular in the granulates is to be seen ("creeping bony substitution"). Both Cerasorb® granulates are appropriate bone substitutes which are replaced by own bone tissue in a unique way."

2007

Bilk D (2007):
Cerasorb M in Dental Surgery – Post-marketing surveillance study with 148 patients. EDI Journal 2007, 3 (4): 40-46.

"Treatment assessments of the 148 patients performed after 3 and 6 months showed continuous decrease of radiographically visible granulate, so that most implants could be placed between 4 to 6 months. Handling, efficiency and healing of the bone substitute were also assessed as good and very good in the vast majority of cases."

Hauschild G, Bader A, Uhr G, Meyer-Lindenberg A, Fehr M (2007):
Klinischer Einsatz von β-Tricalciumphosphat – Erfahrungen mit einem matrixorientierten
Ansatz zur Osteoregeneration.
[Clinical use of β-tricalcium phosphate – experience with a matrix-based approach to osseoregeneration.]
Tierärztl Prax. 2007, 35 (K): 5-13. Article in German.

"Sceletal defects in 11 dogs were treated with β-TCP Cerasorb® to enhance osseoregeneration. In 9 of 11 cases, complete osseous fusion occurred. In 8 cases complete biodegradation of the material became obvious within the observation period."

Maus U, Andereya S, Gravius S, Ohnsorge JAK, Siebert CH, Kaufmann MM, Niedhart C (2007):
Klinische Erfahrungen mit dem resorbierbaren Knochenersatzstoff Cerasorb®.
[Clinical experience with the Resorbable Bone Substitute Cerasorb®.] Orthopädische Praxis 2007, 43 (5): 258-261. Article in German.

"In 30 patients with different orthopaedic indications, Cerasorb® Granules and Block Forms were used as bone regeneration material. The results of the study show, that Cerasorb® is a alternative to the known clinically used bone substitutes because of its biocompatibility and resorption."

Reinsch H, Spörl G, Thierfelder A (2007):
Einsatz des Knochenaufbaupräparates Cerasorb M® als Matrix für das Tissue Engineering. [Use of the bone regeneration material Cerasorb M® as matrix for tissue engineering.]
Zeitschrift für Regenerative Medizin 2007, 2(1): 74-83. Article in German.

"Cerasorb® M is suitable as a scaffold for human bone cells in an outstanding matter, whereas by proliferation and secretion of extra- cellular matrix a substantial tissue growth takes place in the scaffold."

Schulz J, Pretzsch M, Khalaf I, Deiwick A, Scheidt HA, Salis-Soglio G, Bader A, Huster D (2007):
Quantitative Monitoring of Extracellular Matrix Production in Bone Implants by 13C and 31P Solid-State Nuclear Magnetic Resonance Spectroscopy.
Calcif Tissue Int. 2007, 80 (4): 275-285.

"Porous cylinders of β-TCP were loaded with osteogenetically differentiated mesenchymal stem cells and implanted into a critical-size defect of the femoral condyle of rabbits. After 3 months, osteogenesis took place and the typical extra-cellular matrix of bone, consisting mostly of inorganic bioapatite and organic collagen was formed."

Unger RE, Sartoris A, Peters K, Motta A, Migliaresi C, Kunkel M, Bulnheim U, Rychly J, Kirkpatrick CJ (2007):
Tissue-like self-assembly in cocultures of endothelial cells and osteoblasts and the formation of microcapillary-like structures on three-dimensional porous biomaterials.
Biomaterials 2007, 28: 3965-3976.

"In an in-vitro study, the formation of microcapillary-like structures containing a lumen by human dermal microvascular endothelia cells in coculture with human osteoblast cells and pure-phase β-TCP could be shown."

Waluga R, Voigt A, Adolphs N, Nelson K, Klein M (2007):
Augmentation eines Unterkieferknochendefekts nach Alveolarkammdistraktion. Die Anwendung von β-Tricalciumphosphat (β-TCP).
[Augmentation of a mandible defect after alveolar ridge distraction – use of β-tricalcium phosphate (β-TCP).]
Impl J 2007, 5: 28-32. Article in German.

"In the context of a surveillance study, the use of β-TCP for filling a larger mandibula defect after distraction-osteogenesis is reported. Despite a defect volume of 4 - 5 ccm, β-TCP could be used with a good result even without additional autologous spongiosa."

2006

Beyen I, Kasten P, Vogel J, Niemeyer P, Luginbühl R, Richter W (2006):
Porosity influences osteogenic differentiation in vivo and proliferation of mesenchymal stem cells in vitro on beta-tricalcium phosphate solid body scaffolds, but not osteogenic differentiation in vitro.
BIOmaterialien 2006, 7 (3): 119. Abstract.

"The in vivo alkaline phosphatase activity of cell loaded Cerasorb® M ceramics was significantly higher compared with two other β-TCP ceramics."

Bilk D (2006):
Eine neue resorbierbare Membran. [A New Resorbable Membrane.]
Implantologie Journal 2006, 1: 22-24. Article in German.

"The augmentation was performed with a combination of Cerasorb® M, fresh blood and PRP covered by the resorbable membrane INION. This procedure leads to good bone regeneration after 6 months."

Bilk D (2006):
A New Bioresorbable Membrane in Augmentation Surgery.
Implants 2006, 1: 20-21.

"A new bioresorbable membrane (INION) in combination with Cerasorb® M and PRP enables the placement of implants after sinus augmentation, even in cases where the residual bone hight was to be considered borderline for single-stage procedure."

Cseplö K, Vaszilko M, Bogdan S, Barabas J, Suba Z, Szabo G (2006):
Use of β-tricalcium-phosphate (Cerasorb) to fill large jawbone defects: a medium-term study. Poster presentation, XV. ALACIBU-Congress in Cancun/Mexico, 01 May 2006.

"17 large jawbone defects were filled with 3 - 10 g Cerasorb® mixed with blood taken from the bone defect. After 36 - 60 months all bone defects healed uneventfully. Cerasorb® was almost completely resorbed and new bone building had occurred."

Ermrich M, Peters F (2006):
X-ray powder diffraction data of synthetic β-Tricalcium Phosphate – Röntgenpulverdiffraktometrische Daten von synthetischem β-Tricalciumphosphat.
Mat.-wiss. u. Werkstofftech. 2006, 37 (6): 526-529. Article in English.

"The production of synthetic tricalcium phosphate (β-TCP) allows excluding all disadvantages of biologically based ceramics. Moreover, the sintered pure-phase material ensures a high reproducibility without any organic residues of foreign matters."

Friesen K (2006):
Proliferations-, Differenzierungs- und Adhäsionsverhalten osteogener Zelllinien auf unterschiedlichen Knochenersatzmaterialien.
[Proliferation, differentiation and adhesion behaviour of osteogenic cell lines on different bone substitutes.]
Dissertation, Poliklinik für Zahn-, Mund- und Kieferheilkunde, Heinrich-Heine-University, Düsseldorf, Germany 2006: 1-88. Text in German.

"Cerasorb® is the only bone graft on which the primary osteoblasts show a significant increase over the total duration of the study."

Handschel J, Berr K, Depprich R, Meyer U (2006):
Wechselwirkung verschiedener Biomaterialien mit undifferenzierten embryonalen Stammzellen.
[Interaction of different biomaterials with undifferentiated embryonal stem cells.]
56th Annual Congress of the „Arbeitsgemeinschaft für Kieferchirurgie“ (working group for maxillofacial surgery), Wiesbaden, Germany, May, 25 - 27, 2006. Abstract in German.

“Of the different biomaterials investigated, the macro porous β-TCP (Cerasorb® M) seems to be most suitable as scaffold for embryonal stem cells in bone tissue engineering.”

Horch HH, Pautke C (2006):
Regeneration statt Reparation – Eine kritische Bewertung des autogenen Knochentransplantates als “Goldstandard” bei der rekonstruktiven Chirurgie im Kieferbereich.
[Regeneration instead of reparation – A critical review of the autogenous bone transplant as ”golden standard“ of reconstructive oral surgery.]
Mund-, Kiefer- und GesichtsChir. 2006, 10 (4): 213-220. Article in German.

“Due to the further development of modern bone substitute materials which reveal in part superior long-term results for special indications the routine use of autogenous bone has to be critically reviewed.”

Horch HH, Sader R, Pautke C, Neff A, Deppe H, Kolk A (2006):
Synthetic, pure-phase beta-tricalcium phosphate ceramic granules (Cerasorb®) for bone regeneration in the reconstructive surgery of the jaws.
Int. J. Oral Maxillofac. Surg. 2006, 35: 708-713.

“The aim of the study was to investigate the long-term effect of the ceramic β-TCP at different sites of alveolar reconstruction and to evaluate its properties in 152 patients up to 52 weeks postoperative. Complete radiological replacement of β-TCP by autologous bone was found after approximately 12 months, indicating its osteoconductive properties.”

Isenberg J, Pearce S, Milz S, Libera J, Köbke J, Josimovic-Alasevic O, Rehm KE (2006):
Kritischer Tibiasegmentdefekt - Effekt autologer Osteoblasten auf einem vaskularisierten β- TCP-Träger.
[Critical size defect of the tibia – Effect of autogenous osteoblasts on a vascularized β-TCP- scaffold.]
Presentation at the “Deutscher Kongress für Orthopädie und Unfallchirurgie”, Berlin,
Germany, October 04, 2006. Abstract in German

“The pilot-study showed the complete degradation of β-TCP-granules within 23 weeks in 4 cm long tibia-segment-defects in adult alpine sheep.”

Maus U, Andereya S, Ohnsorge J, Siebert CH, Niedhart C (2006):
Klinische Testung des resorbierbaren Knochenersatzstoffes CERASORB®. [Clinical Testing of the Resorbable Bone Substitute CERASORB®.]
Lecture Nr. 124, 54th Annual Congress, “Vereinigung Süddeutscher Orthopäden“, Baden-Baden 2006, Germany. Abstract in German.

“This synthetic bone regeneration material is an alternative to autologous spongiosa in the filling of bony defects. After complete resorption, this material leads to a “restitutio-ad-integrum”. The advantage is the low rate of complications compared to autologous spongiosa in the mouth.”

Muench C, Schilling AF, Amling M, Rueger JM (2006):
Anwendung einer neuen, phasenreinen Beta-Trikalziumphosphatkeramik (β-TCP) zur Defektfüllung nach Tibiakopffrakturen.
[Application of a new pure beta-tricalcium phosphate ceramic (β-TCP) as void filler in tibia head fractures.]
Lecture on “Deutscher Kongress für Orthopädie und Unfallchirurgie”, Berlin. October 5, 2006. Meeting abstract in German.

“Porous β-TCP as block forms or granules is a suitable bone replacement material for augmentation of metaphysial defects after tibia head fractures.”

Ormianer Z, Palti A, Shifman A (2006):
Survival of Immediately Loaded Dental Implants in Deficient Alveolar Bone Sites Augmented with β-Tricalcium Phosphate.
Implant Dentistry 2006, 15 (4): 395-403.

"In all cases, bone defects were filled with β-tricalcium phosphate (Cerasorb®) and immediate loading was performed with the goal of improving implant survival. After up to 4 years of clinical follow-up 1039 implants (97%) survived."

Palm F (2006):
Cerasorb®M – a new synthetic pure-phase β-TCP ceramic material in oral and maxillofacial surgery – An open study of 121 patients.
IMOI 2006, 3: 24-27.

"The results of this evaluation show Cerasorb® M to be an ideal synthetic material with a porosity concerning body's own spongiosa, degradation in time and simultaneous formation of body's own bone, which enables the placement of implants already after 4 - 6 months."

Peters F, Groisman D, Davids R, Hänel Th, Dürr H, Klein M (2006):
Comparative Study of patient individual implants from β-tricalcium phosphate made by different techniques based on CT data.
Mat.-wiss. u. Werkstofftech. 2006, 37 (6): 457-461.

"Especially defects where surgeries have a longer planning horizon can be treated with custom-made patient individual implants. Two different techniques for making such implants from β-TCP with 3-dimensional fabrication methods were experimentally realised and estimated."

Princ G, Bert M, Ifi JC (2006):
Utilisation du substitut osseux β-phosphate tricalcique (β-TCP). Résultats à 3 ans. Le Chirurgien-Dentiste De France No. 1250/1251. 23-30 Mars 2006: 29-32.

"From a study, which has been conducted with 72 patients, a number of 10 patients could be examined after 3 years. The results of the 3 years showed a good stability of all implants as well clinically as well radiologically."

Schermer S (2006):
Augmentation und Defektrekonstruktion mit einer neuen synthetischen, phasenreinen β-TCP Keramik (Cerasorb® M).
[Augmentation and Defect Reconstruction with a New Synthetic, Pure-phase β-TCP Ceramic (Cerasorb® M).]
Implantologie Journal 2006, 10 (2): 36-44. Article in German.

"In an open evaluation with 289 patients Cerasorb® M showed to be an ideal synthetic material with a porosity concerning body's own spongiosa for use in the dental practice."

Schermer S (2006):
Augmentation and Defect Reconstruction with a New Synthetic Pure-Phase Beta-Tricalcium Phosphate – Open trial in 289 patients.
EDI Journal – European Journal for Dental Implantology 2006, 1: 31-39.

"Cerasorb® M is an ideal synthetic material for use in the dental practice which does not expose surgeons and patients to the risk inherent in materials of biologic origin nor does it require extensive pre-procedure patient information."

Schermer S (2006):
Einzeitige Sofort- oder zweizeitige Spät-Insertion von 3i-Implantaten in rekonstruierten oder zu rekonstruierenden Arealen.
[Immediate or delayed insertion of 3i-implants in reconstructed or to be reconstructed areas]
Implantologie Journal 2006, 4 (10): 42-47. Article in German.

"Cerasorb®, Cerasorb® M respectively, showed after 3 - 6 months regularly a good resorption and in relation to time and the individual situation of the patient a very good osseointegration of the dental implants."

Schermer S (2006):
Defektrekonstruktion mit alloplastischen Knochenersatzmaterialien – Implantation bei reduziertem und stark reduziertem Knochenangebot.
[Defect Reconstruction with Alloplastic Bone Substitute Materials – Implantations in reduced and severely reduced Bone.]
Oralchirurgie Journal 2006, 1: 22-26. Article in German.

"With the β-TCP materials Cerasorb® and Cerasorb® M, materials with highest phase-purity are available, which proved their value in the daily practice as well in common situations as well in difficult indications."

Suba Z, Takacs D, Matusovits D, Barabas J, Fazekas A, Szabo G (2006):
Maxillary sinus floor grafting with β-tricalcium phosphate in humans: density and microarchitecture of the newly formed bone.
Clin. Oral Impl. Res. 2006, 17: 102-108.

"In 17 edentulous patients, the maxilla sinus floor was extremely atrophied, which was surgically elevated bilaterally by insertion of Cerasorb® or autogenous bone graft. After 6 months, the new bone density was not significantly different. The augmented sinus floor was strong and suitable for anchorage of dental implants."

Szabo G, Bogdan S, Suba Z, Martonffy K, Hrabak K, Barabas J (2006):
Füllung großer Kieferknochendefekte mit β-Tricalciumphosphat (Cerasorb): Eine Fünfjahresstudie.
[Filling of large jawbone defects with β-tricalciumphosphate (Cerasorb®): A five-year study.] Z Oral Implant 2006, 4: 202-211. Article in German.

"14 patients with 18 large defects of a diameter over 4 cm were observed over 5 years. In all cases, the filling with pure β-TCP Cerasorb® was sufficient for a complete biological remodelling."

2005

Bilk D (2005):
Vorhersehbare und sichere Knochenregeneration mit verschiedenen Formen eines phasenreinen β-Tricalciumphosphats.
[Predictable and Safe Bone Regeneration with Different Forms of a Pure-phase β- Tricalciumphosphate.]
Dent Implantol 2005, 9 (7): 564-572. Article in German.

"A procedure concerning the protocol forms an augmentation complex from the synthetic inorganic material with which even large bony defects can be treated successfully and implants can be placed immediately or promptly."

Herten M, Rothamel D, Friesen K, Schwarz F, Becker J (2005):
Zelladhäsion und Zelldifferenzierung an verschiedenen Knochenersatzmaterialien. [Cell adhesion and cell differentiation on different bone substitutes.]
Poster presentation at the Symposium of the "Arbeitsgemeinschaft für Kieferchirurgie", 5./6. Mai 2005, Bad Homburg v.d.H./Germany. Abstract in German.

"Examined was the influence of different inorganic and xenogenic bone supplements on adhesion, proliferation and differentiation of bone marrow cells, osteoblasts and osteoblast like cells. The cell growth on Cerasorb® was significantly higher for all cell types than control."

Hille R (2005):
Alveolar Ridge Preservation: Knochenaufbau nach Extraktion. [Alveolar Ridge Preservation: Bone Regeneration after Extraction.]
Implantologie Journal 2005, 1: 12-18. Article in German.

"The resorption of the alveolar bone after extraction of teeth is considerably less due to simultaneous augmentation of the alveoli with Cerasorb® and the use of non-resorbable (TefGen) or resorbable (Epi- Guide) membranes as barriers on the extraction alveolus. The tolerability of the described procedures and materials is clinically evaluated as good to very good. Thus, this method can be recommended if a maximum preservation of the alveolar bone is essential, particularly for prosthetic reconstructions or because of aesthetic reasons."

Hille R, Vollmer R (2005):
Alveolar Ridge Preservation: Preserving and Building up the Bony Structures after Extraction.
International Magazine of Oral Implants Vol. 6 2005, 1: 22-28.

"In a field study it could be shown that after the application of Cerasorb® and of an appropriate membrane technique the alveolar crest could be maintained."

Hoch T (2005):
Klinische Anwendung von Knochenaufbaumaterial bei Implantation mit offener Einheilung. [Clinical Application of Bone Substitutes at Dental Implantation with open Wound Healing]
Implantologie Journal 2005, 4: 6-8. Article in German.

"Cerasorb® used mixed with blood and in combination with PRP or different membranes proves to be a bone augmentation material which is easy to use and shows high compatibility as well as safety regarding bone quality in the augmentation area."

Kim CS, Kim JI, Kim J, Choi SH, Chai JK, Kim CK, Cho KS (2005):
Ectopic bone formation associated with recombinant human bone morphogenetic proteins-2 using absorbable collagen sponge and beta tricalcium phosphate as carriers.
Biomaterials 2005, 26: 2501-2507.

"This study demonstrated that rh BMP-2, when impregnated in ACS and β-TCP provoked osteoinductive activity in rat subcutaneous tissue at two weeks. In addition, histological analysis of rh BMP-2 / β-TCP sites at eight weeks demonstrated the expected normal progression of the bone forming process including Haversian systems and cements lines."

Kovacs K, Velich N, Huszar T, Fenyves B, Suba Z, Szabo G (2005):
Histomorphometric and Densitometric Evaluation of the Effects of Platelet-Rich Plasma on the Remodeling of β-Tricalcium Phosphate in Beagle Dogs.
The Journal of Craniofacial Surgery 2005, 16 (1): 150-154.

"Standardized defects formed in the mandibles of ten beagle-dogs were refilled with β-TCP (Cerasorb®) or with a mixture of β-TCP (Cerasorb®) and PRP. After twelve weeks, the densitometric and histomorphometric evaluation demonstrated a significant difference in favour of bone substitute used together with platelet-rich-plasma, which accelerates remodeling of β-TCP (Cerasorb®) and leads to the formation of hard tissue where the quality is similar to that of autologous bone."

Motsonelidze NR, Okropiridze TV, Kapanadze RV (2005):
[Usage of Cerasorb in Complex Treatment of Chronic Generalized Periodontitis (Clinical- Experimental Study)].
Georgian Medical News, DUP-General Collection, W1 GE454n, No. 1, Jan. 2005, 17-20. Article in Russian.

"Cerasorb® was used in the treatment of chronic generalized periodontitis. After 18 months the bone regeneration, confirmed by radiography, was shown in 87,8% and only 60,1% in the control group. Cerasorb® can be recommended for using in the clinical practice."

Palti A, Hermann F (2005):
Die geschlossene Sinusbodenelevation. Eine retrospektiv-röntgenologische Studie auf der Basis von 204 Implantaten zur Beurteilung der Veränderung der erzielten Augmentationshöhe.
[Closed sinus floor augmentation. A retrospective radiological study based on 204 implants to evaluate the change of the achieved augmentation height.]
Z Oral Implant 2005, 1: 6-14. Article in German.

"Sinus floor elevation has been performed in 104 patients, radiological follow-up was up to 24 months. An augmentation height of 2-4 mm could be reached in 44.1%, of 4-6 mm in 35.3% of the patients. The survival rate of all controlled implants was 96.1% within 2 years."

Peters F, Hniopek T, Hasanovic K (2005):
Mechanische Charakterisierung von granulären Knochenersatzmaterialien. [Mechanical characterization of granular bone substitutes.]
Biomaterialien 2005, 6 (3): 244 (Poster). Poster in German.

"Abrasion tests showed that the fine particles spectra are far away from the area which underlays phagocytosis. This shows that the material has no risk for an inflammation of the surrounding soft tissue in case of mechanical disintegration."

Plenk H jr, Lederer J (2005):
Histomorphologie der Knochenregeneration nach Sinusbodenaugmentation mit zwei Formen eines TCP-Granulates – ein Fallbericht.
[Histomorphology of the bone regeneration after sinus floor augmentation with two different designs of TCP-granulates – A case report.]
Z Oral Implant 2005, 1: 32-38. Article in German.

"In a multiphase denture reconstruction Cerasorb® and Cerasorb® M were used in sinus floor elevation. After 4.5 months growth of new built bone was seen between the granules and on the outer and inner surface as well as a smooth transition of the granulate to matrix of woven bone tissue."

Pretzsch M, Wild A, Schulz J, Khalaf I, Zernia G, Deiwick A, Gründer W, Bader A, Huster D (2005):
Solid-State NMR Spectroscopy on Bone - First Results and Perspectives.
Poster presented on 2nd World Congress on Regenerative Medicine, Leipzig, Germany, 2005.

"Mesenchymal stem cells were seeded into porous β-TCP (Cerasorb®)- cylinders and subsequently implanted into the femoral condyle of rabbits. The stem cells differentiate into osteoblasts and, while new bone material is produced by these cells, β-TCP is partially resorbed."

Reich R, Appel T, Martini M, Lückerath W (2005):
Improvement of Implant Survival in Sinus Grafts by the Use of Alloplastic Bone Replacement Materials.
2nd World Congress on Regenerative Medicine, Leipzig, Germany, 2005. Abstract in German.

"210 sinus grafts were performed in 188 patients and 494 implants placed in the region of interest. When used β-TCP alone or in combination with autologous bone implant survival rates were up to 98%. Resonance frequency analysis delivered identical osseointegration levels for these areas as obtained in implants placed in local D2 bone."

Szabo G, Huys L, Coulthard P, Maiorana C, Garagiola U, Barabas J, Nemeth Z, Hrabak K, Suba Z (2005):
A Prospective Multicenter Randomized Clinical Trial of Autogenous Bone Versus β-Tricalcium Phosphate Graft Alone for Bilateral Sinus Elevation: Histologic and Histomorphometric Evaluation.
Int J Oral Maxillofac Implants 2005, 20: 371–381.

"Bilateral sinus grafting was performed on 20 patients. Cerasorb® only was used on the experimental side, and autogenous bone only on the control side. Histologically and histomorphometrically, there was no significant difference between Cerasorb® and autogenous bone in terms of quantity and rate of ossification."

Szabo G, Barabas J, Hrabak K, Suba Z, Garagiola U, Kadar B (2005):
Autologer Knochen versus β-Tricalcium-Phosphat allein – Eine radiologische und histologische Evaluation.
Z Oral Implant 2005, 4 (1): 216-222. Article in German.

"Bilateral sinus grafting was performed simultaneously – β-TCP (Cerasorb®) randomly on one side, autogenous bone on the other side. The implants were placed after 6 months: The formation of new bone was similar on both sides."

Szabo G, Barabas J, Nemeth Z, Hrabak K, Suba Z (2005):
Vergleich von autologem Knochen mit β-Tricalciumphosphat bei bilateralem Sinuslift. [Comparison of autologous bone with β-tricalciumphosphate in bilateral sinus lift.]
Implantologie Journal 2005, 6: 50-53. Article in German.

"The new bone production was similar on both sides. The difference between the two sides was not significant. These results support the view that β-TCP can be a satisfactory graft material even without the addition of autogenous bone."

Wainwright M (2005):
Augmentation unter besonderer Berücksichtigung der Ästhetik. Zwei unterschiedliche Verfahren im Vergleich.
[Augmentation in special consideration of aesthetics. Two different procedures in comparison.]
Implantologie Journal 2005, 4: 18-21. Article in German.

"To achieve a perfect restoration, "ridge-preservation-technique" is performed with β-TCP Cerasorb® M and a non-resorbable membrane (TefGen). The implants are placed after 4-5 months – as well after the loss of a single tooth as well after the loss of a number of teeth in the front tooth region."

Zijderveld SA, Zerbo IR, van den Bergh JP, Schulten EA, ten Bruggenkate CM (2005):
Maxillary Sinus Floor Augmentation Using a β-Tricalcium Phosphate (Cerasorb) Alone Compared to Autogenous Bone Grafts.
Int J Oral Maxillofac Implants 2005, 20 (3): 432–440.

"The results of the present study show that the sinus floor elevation procedure with β-TCP appears to be a reliable two phase procedure. Within the one year of follow-up no implant losses or failures had occurred."

2004

Artzi Z, Weinreb M, Givol N, Rohrer MD, Nemcovsky CE, Prasad HS, Tal H (2004):
Biomaterial Resorption Rate and Healing Site Morphology of Inorganic Bovine Bone and β-Tricalcium Phosphate in the Canine: a 24-month Longitudinal Histologic Study and Morphometric Analysis.
Int J Oral Maxillofac Implants 2004 May-Jun, 19 (3): 357-368.

"Complete bone healing was established in all grafted defects. However, at 24 months β-TCP particles were completely resorbed, whereas Inorganic Bovine Bone (IBB) particles still occupied a remarkable area fraction without significant resorption beyond 6 months."

Aybar B, Bilir A, Akcakaya H, Ceyhan T (2004):
Effects of tricalcium phosphate bone graft materials on primary cultures of osteoblast cells in vitro.
Clin Oral Implants Res. 2004 Feb, 15 (1): 119-125.

"The results demonstrate that β-TCP graft material (Cerasorb®) has no adverse effect on cell count, viability and morphology, and this material provides a matrix that favours limited cell proliferation."

Basa S, Varol A, Turker N (2004):
Alternative Bone Expansion Technique for Immediate Placement of Implants in the Edentulous Posterior Mandibular Ridge: A Clinical Report.
Int J Oral Maxillofac Implants 2004 Jul-Aug, 19 (4): 554-558.

"The split-crest surgical technique is a valid reconstructive procedure for sharp posterior mandibular ridges. If performed using platelet-rich plasma and Cerasorb®, it can shorten the osseointegration period."

Bilk D (2004):
Die Implantatversorgung außergewöhnlicher Defektsituationen. [Implant placement in exceptional defect situations] Implantologie Journal 2004, 2: 30-36. Article in German.

"The case descriptions show that today with modern augmentation and membrane techniques (Cerasorb®, TefGen-membrane) it is possible to treat even extreme cases without putting too much strain on the patient but effective and successful, without additional and unnecessary risks by additional operations."

Broos B (2004):
Unterstützende Maßnahmen beim internen Sinuslift zum Schutz der Kieferhöhlenschleimhaut (Schneidersche Membran).
[Supporting measures to protect the Schneiderian membrane in internal sinus lift operations] Implantologie Journal 2004, 7: 47-48. Article in German.

"After the preparation of the Schneiderian membrane with special osteotomes a gelatine sponge (Stypro®) is inserted followed by the augmentation with pure-phase β-tricalcium phosphate Cerasorb®. This procedure protects the Schneiderian membrane and improves the healing process. No complications have been observed."

Hauschild G, Bader A (2004):
Vor- und Nachteile synthetischer versus xenogener Knochenersatzmaterialien. [Advantages and disadvantages of synthetic versus xenogen bone grafts.]
Tierärztliche Praxis Kleintiere 2004, 32: 67-70. Article in German.

"Due to the risk of possible transmission of prions causing bovine spongiform encephalopathia and Creutzfeld-Jakob Disease by using xenografts based on bovine material and with a view to its osteoinductive power, synthetic bone regeneration materials of pure phase β-TCP are a reasonable alternative."

Hoch D (2004):
Verkleinerung von Ohrradikaloperationshöhlen mit phasenreiner β- Trikalziumphosphatkeramik.
[Reduction of radical ear surgery cavities with pure-phase β-tricalcium phosphate.]
Dissertation, Ruhr-University Bochum, Germany 2004, 1-70. Text in German.

"The histologic specimen show a large zone of newly formed bone. In those areas, which are not filled with newly built bone so far, β-tricalcium phosphate Cerasorb® has the function of a placeholder serving as a scaffold and guide rail for the bone regeneration. … 37 patients (86% success rate) were free of symptoms. Thus the aim of treatment was reached …"

Horch HH, Sader R, Kolk A (2004):
Synthetische, phasenreine Beta-Tricalciumphosphat-Keramik (Cerasorb) zur Knochenregeneration bei der rekonstruktiven Chirurgie der Kiefer - Eine klinische Langzeitstudie mit Literaturübersicht.
[Synthetic, non-reactive beta-tricalcium phosphate-ceramic (Cerasorb) for bone regeneration in the reconstructive surgery of the jaws. A clinical long term study with review of literature.]
Deutsche Zahnärztliche Zeitschrift 2004, 12: 680-686. Article in German.

"A complete replacement of β-TCP-ceramic by autogenic bone could be proven radiologically after approx. 12 months. Because of its universal usability and low complication rate synthetic, non-reactive β-TCP- ceramic presents as an excellent alternative also for bigger bone defects as a supplement to autogenic spongiosa transplants."

Hotz W (2004):
Retrospektive Fallstudie zum Sinuslift mit Cerasorb® und PRP. [Retrospective Case Study – Sinus Lift with Cerasorb® and PRP].
Implantologie Journal 2004, 1: 20-27. Article in German.

"Augmentation with the bone regeneration material Cerasorb®, with and without addition of PRP, is a convenient and reliable method for both the dental implantologist and his patients, where an adequate implant bed is created from vital autologous bone within a reasonable amount of time."

Koepp HE, Schorlemmer S, Kessler S, Brenner RE, Claes L, Günther KP, Ignatius AA (2004):
Biocompatibility and Osseointegration of β-TCP: Histomorphological and Biomechanical Studies in a Weight-Bearing Sheep Model.
Journal of Biomedical Materials Research 2004, Aug 15, 70B (2): 209-217.

"It can be concluded that β-TCP block material in a weight bearing implantation model showed good biocompatibility, osseointegration and beginning degradation, even though it was not further degraded between 6 and 12 months."

Kovacs K, Szabo G (2004):
[Clinical experience on dental preservation operations applying combined synthetic osteogenetics (β-tricalcium phosphate) and platelet-rich plasma].
Kisallat Praxis 2004, 3: 94-101. Article in Hungarian.

"Due to the excellent results with beta-tricalcium phosphate (Cerasorb®), PRP and their combination in bone reconstruction, this technique should fast spread in small animal veterinary practice."

Ormianer Z, Palti A (2004):
Dentinogenesis Imperfecta – ein seltener Fall aus der Praxis. Frühe Implantation zur Vermeidung von Knochenverlust.
[Dentinogenesis Imperfecta – a rare case from the practice. Early implantation to avoid bone loss.]
Implantologie Journal 2004, 2: 6-10. Article in German.

"Successful augmentation with β-TCP (Cerasorb®) combined with blood and PRP. Four months later placing of implants. Excellent result."

Peters F, Reif D (2004):
Functional Materials for Bone Regeneration from Beta-Tricalcium Phosphate. Funktionelle Materialien zur Knochenregeneration aus Beta-Tricalciumphosphat.
Mat.-wiss. u. Werkstofftech. 2004, 35 No. 4: 203-207. Article in English.

"β-TCP bioceramics have remarkable differences. Today different morphologies of the synthetic β-TCP bone regeneration material Cerasorb® for different applications are available for reaching the goal of complete bone regeneration."

Suba Z, Takacs D, Gyulai-Gaal S, Kovacs K, Velich N, Szigeti K, Szabo G (2004):
[Alveolar bone regeneration stimulated by a combination of platelet-rich plasma and Cerasorb graft in beagle dogs: Histological and histomorphometric studies].
Fogorv Sz. 2004, 97 (4): 143-149. Article in Hungarian.

"Bilateral extraction alveoli of the premolars in 12 dogs were filled up with a combination β-Tricalciumphosphate Cerasorb® and PRP or Cerasorb® alone. After 6 weeks the newly formed bone was significantly denser on the β-TCP/PRP side. After 12 weeks this difference became moderate, after 24 weeks the bone forming activity was nearly equal on both sides. Cerasorb® and PRP result in more intense bone regeneration, especially in the early phase."

Suba Z, Takacs D, Gyulai-Gaal S, Kovacs K (2004):
Facilitation of β-Tricalcium Phosphate-Induced Alveolar Bone Regeneration by Platelet-Rich Plasma in Beagle Dogs: A Histologic and Histomorphometric Study. Int J Oral Maxillofac Implants 2004 Nov-Dec, 19 (6): 832-838.

"Twenty-four weeks after grafting, bone-forming activity was nearly equal in the two groups (β-TCP with and without PRP), and the bone area in the two groups did not differ significantly (62.9% and 61.9% resp.)."

Suba Z, Hrabak K, Huys L, Coulthard P, Maiorana C, Garagiola U, Szabo G (2004):
[Histologic and histomorphometric study of the bone regeneration induced by β-tricalcium phosphate. (Multicentric study)].
Orvosi Hetilap 2004 Jul 4, 145 (27): 1431-1437. Article in Hungarian.

"After 6 months, insertion of the beta-tricalcium phosphate graft resulted in formation of stable bony bed apt to anchor of dental implants."

Tadic D, Epple M (2004):
A thorough physicochemical characterisation of 14 calcium phosphate-based bone substitution materials in comparison to natural bone.
Biomaterials 2004, 25 (6): 987-994.

"14 different bone graft materials were investigated and the results were compared to synthetic hydroxy-apatite and natural bone samples… Cerasorb® is the only phase pure β-TCP of the tested β-TCP's."

Velich N, Nemeth Z, Toth C, Szabo G (2004):
Long-Term Results With Different Bone Substitutes Used for Sinus Floor Elevation. J Craniofac Surg 2004, 15 (1): 38-41.

"A study of the frequencies of failures (graft material resorption and implant loss) after 810 maxillary sinus elevations with various graft materials or their combinations was conducted. Concerning the rate of loss of implants, the most favourable results were achieved with β-TCP alone or together with autogenous bone."

Velich N, Nemeth Z, Hrabak K, Suba Z, Szabo G (2004):
Repair of Bony Defect With Combination Biomaterials.
J Craniofac Surg 2004, 15 (1): 11-15.

"At one year after the intervention, the site of the augmentation with β-TCP was in all cases occupied by hard tissue of good quality. The speed of remodeling seemed to be the fastest when the mixture of β-TCP and PRP was used."

Velich N, Kovacs K, Huszar T, Semjen G, Reiczigel J, Szabo G, Suba Z (2004):
[The effect of platelet-rich plasma on new bone formation by augmentation with osseoconductive bone substitute material in beagle dogs].
Fogorv Sz. 2004, 97 (1): 23-27. Article in Hungarian.

"Defects in the mandibles of beagle dogs were filled on one side with β-TCP alone, on the other side with a mixture of β-TCP and PRP (from autologous blood). After 12 weeks new bone formation was significantly greater, when PRP was applied."

Zerbo IR, Zijderveld SA, de Boer A, Bronckers AL, de Lange G, ten Bruggenkate CM, Burger EH (2004):
Histomorphometry of human sinus floor augmentation using a porous β-tricalcium phosphate: a prospective study.
Clin Oral Implant Res. 2004, 15 (6): 724-732.

"Cerasorb® is an acceptable bone substitute material for augmentation of the maxillary sinus. Due to its osteoconductive but not osteoinductive properties the rate of bone formation is somewhat delayed in comparison to autologous bone."

Zerbo IR, Bronckers AL, de Lange G, Burger EH (2004):
Localisation of osteogenic and osteoclastic cells in porous β-tricalcium phosphate particles used for human maxillary sinus floor elevation.
Biomaterials 2004 April, 26 (12): 1445-1451.

"In conclusion, this study confirms the hypothesis based on our earlier work that the cells infiltrating around and within the TCP material are osteogenic. The data suggest that the mechanism of degradation of the material is likely to be due to chemical dissolution and that the role played by osteoclasts is only minor."

2003

Aybar B, Günhan Ö, Bilgic L, Emes Y (2003):
Guided osteogenesis using synthetic membranes and alloplastic materials: A pilot study. Quintessence Int. 2003, 34 (2): 117-122.

"After 6 weeks guided bone regeneration utilizing Gore-Tex augmentation material and TCP (Cerasorb®) bone grafts resulted in the formation of viable new bone in calvarian defects in 8 rats."

Böhm S, Kurtulus I, Gonzales J, Meyle J (2003):
Effect of PRP on early wound healing in intrabony defects. Poster Presentation AAP 2003 San Francisco (Annual Meeting American Academy of Periodontology).

"The addition of PRP to the graft material seems to have a positive influence on the early wound healing after regenerative access flap surgery in intrabony defects."

Braun A, Appel T, Frentzen M (2003):
Endodontic and surgical treatment of a geminated maxillary incisor. Int Endod J. 2003 May, 36 (5): 380-386.

"... the extraction socket was filled with β-TCP ceramic (Cerasorb®). Radiographs taken … after 6 months showed no periodontal or periapical lesions. No signs of external resorption were identified."

Engelke W, Schwarzwäller W, Behnsen A, Jacobs HG (2003):
Subantroscopic Laterobasal Sinus Floor Augmentation (SALSA): An Up-to-5-Year Clinical Study.
JOMI The International Journal of Oral & Maxillofacial Implants 2003, 18 (1): 135-143.

"118 sinus augmentations have been performed on 83 patients using particulate alloplastic augmentation material (tricalcium phosphate) with various amounts of autogenous bone and blood. Mean augmentation height was 8.6 mm."

Firat D, Özyuvaci H, Oral O, Sirin Y, Utku C (2003):
[A comparative study of β-TCP (Cerasorb®) and natural bovine bone mineral (Bio-Oss®) on bone healing in rats.]
Cilt5, sayi1, Ocak-Subat-Mart 2003: 28-32. Article in Turkish.

"Symmetrically formed defects in the tibial bone of 21 rats were filled with β-TCP Cerasorb® or Bio-Oss®. Microscopic examination revealed the areas filled with Cerasorb® showing an increased rate of bone remodeling when compared to Bio-Oss®. Moreover, Cerasorb® implanted area resorbs earlier than the Bio-Oss® filled regions in the long term."

Foitzik C, Staus H (2003):
Le Fort I Osteotomy in Atrophied Maxilla and Bone Regeneration With Pure-Phase β-Tricalcium Phosphate and PRP. Implant Dentistry 2003, 12 (2): 132-139.

"The pure-phase β-Tricalciumphosphate Cerasorb® together with autogenous bone at a ratio of 4:1, in combination with patients' own PRP for a vertical augmentation of completely atrophied maxillae, resulted in an advancement of 14 to 16 mm. After a period of 8 months the β-TCP was completely resorbed and the X-ray control showed no residual granules in the defect sites."

Kovacs K, Fenyves B, Martonffy K, Semjen G, Szabo G (2003):
[Comparative computertomographic (CT) examination of ossification produced by thrombocyte-rich blood plasma and synthetic bone-substitute material (β-tricalcium-phosphate)].
Magyar Allatorvosok Lapja 2003, September: 537-542. Article in Hungarian.

"Bone regeneration was more effective (in the beagle dog) when thrombocyte suspension and β-TCP were applied simultaneously than the single application of β-TCP."

Kovacs K, Velich N, Huszar T, Szabo G, Semjen G, Reiczigel J, Suba Z (2003):
Comparative Study of β-Tricalcium Phosphate Mixed with Platelet-rich Plasma versus β-Tricalcium Phosphate, a bone substitute material in dentistry.
Acta Veterinaria Hungarica 2003, 51 (4): 475-484.

"Two teeth were removed symmetrically from each side of the mandible of 12 Beagle dogs; the resulting cavities were filled on one side with β-TCP alone, on the other side with a mixture of β-TCP and PRP (from autologeous blood). In week 12 new bone formation was significantly greater, when PRP was applied."

Kovacs K, Szabo G (2003):
[Cystectomy and filling of cyst cavity with bone substitute β-tricalcium phosphate (Cerasorb) in dogs. Case report].
Magyar Allatorvosok Lapja 2003, 125 (4): 225-228. Article in Hungarian.

"In the treatment of a non-erupted first premolar mandibular tooth (of a dog) the osteoinductive bone substitute β-TCP (Cerasorb®) was used, which is rarely used in veterinary medicine so far. This substance may be useful for bone substitution in small animal practice."

Merten HA, Gruber RM, Nitsch A, Ludwig A, Schliephake H (2003):
Evaluation oralchirurgischer Augmentationsmaterialen - Ein tierexperimentell- histomorphologischer Vergleich.
[Evaluation of augmentative materials in oral surgery – A histomorphometric comparison in animals.]
Implantologie 2003, 11 (3): 215-236. Abstract in German.

"Cerasorb® is "golden standard" among the bone regeneration materials."

Moro G, Casini V, Bastieri A (2003):
[Use of Platelet-rich Plasma in Major Maxillary Sinus Augmentation]. Minerva Stomatologica 2003, 52 (6): 267-271. Article in Italian.

"Major augmentation of the maxillary sinus was performed with a mixture of β-TCP (Cerasorb®), PRP, and autologous bone tissue. All patients were successfully treated with formation of high quality bone tissue, which subsequently enabled optimal osseointegration of the implants inserted. In consequence the surgical trauma undergone by the patient is markedly reduced."

Reich RH (2003):
Systemabhängige Steigerung von Implantat-Überlebensraten nach Sinuslift – retrospektive Analyse an 211 Fällen.
[System related increase of implantation survival rates after sinus lift retrospective analysis in 211 cases.]
Lecture, 15th DGI-Annual Meeting in Göttingen/Germany November 2003. Abstract in German.

"Examination of implant survival rates in augmented sinus lift areas in 211 cases: Hip spongiosa and hip spongiosa + Cerasorb® and hip spongiosa + Ceros HA® were used as augmentation material. Only at implants inserted in Cerasorb® there was no loss of implants."

Schiroli G, Chiaramondia M (2003):
Human histological 4 months findings using a combination of pure-phase beta tricalcium phosphate (β-TCP) and Platelet Rich Plasma (PRP) chair-side preparation in comparison
with β-TCP alone, autogenous bone graft, DFDBA and Bio-Oss.
Poster Presentation at the International Conference "Bone 2003", NL-Maastricht, Oct. 2003.

"The histological evaluation of the biopsies displayed significantly more mature bone formation for the sites treated with β-TCP and PRP and β- TCP alone, followed by autogenous bone graft. The two sites filled with DFDBA and bovine bone graft displayed decreasing amounts of bone formation in the order of mentioning."

Trisi P, Rao W, Rebaudi A, Fiore P (2003):
Histologic Effect of Pure-Phase Beta-Tricalcium Phosphate on Bone Regeneration in Human Artifical Jawbone Defects.
The International Journal of Periodontics & Restorative Dentistry, 2003, 23 (1): 69-77.

"The pure beta-TCP was resorbed simultaneously with new bone formation, without interference with the bone matrix formation. Cerasorb® proved to be resorbable in 6 months without interference with the new bone matrix formation."

Velich N, Barabas J, Szabo G (2003):
[About remodelling in connection with two cases of bone-substitution]. Fogorvosi Szemle 2003, 96 (3): 111-114. Article in Hungarian.

"The materials utilized for the reconstruction of facial bone defects must satisfy various requirements. Augmentation was carried out with beta- TCP following the removal of a fibromyxoma. One year after the intervention, the site of the augmentation was occupied by hard tissue of good quality. The material satisfied the demands of transformation into bone (remodeling)."

Velich N, Toth Ch, Szabo G (2003):
[Clinical comparison of graft materials used for sinus elevation]. Fogorvosi Szemle 2003, 96 (1): 33-35. Article in Hungarian.

"In a survey of the causes of the lack of success (graft loss and implant failure) of sinus elevations with various graft materials or their combinations, Cerasorb®/ Cerasorb® PRP had the best outcome."

2002

Gruber AA (2002):
Knochenaufbau mit Beta-Trikalzium-Phosphat (Beta-TCP), Erfahrung aus 50 Anwendungen von Beta-TCP unter besonderer Berücksichtigung der Knochentumoren. [Formation of bone with Beta-tricalcium-phosphate (Beta-TCP), experience from 50 treatments with Beta-TCP under special regard of bone tumours.] Z Orthop 2002, Abstract M056, Written in German.

"β-TCP Cerasorb® was used in 50 patients with bone tumors in fracture reconstruction and in inflammatory rheumatic joint deseases. β-TCP showed a complete resorption and growth of new bone with biomechanic results in terms of real remodelling."

Hoch T (2002):
Knochenersatzmaterialien in der chirurgischen Zahnarztpraxis. [Bone regeneration materials in the dental surgery practice]. Implantologie Journal 2002, 6 (5): 20-25. Article in German.

"Cerasorb® mixed with blood and in combination with PRP or together with different membranes is easy to use in the daily practice and has a high degree of safety concerning the quality of bone in the later augmentation site. It is very well accepted by the patients especially as no second operation is needed to harvest autogenous bone and because of its biological compatibility."

Nemeth Z, Suba Z, Hrabak K, Barabas J, Szabo G (2002):
[Autogenous bone versus β-tricalcium phosphate graft alone for bilateral sinus elevations (2-3D CT, histologic and histomorphometric evaluations)]. Orvosi hetilap 2002, 143 (25): 1533-1538. Article in Hungarian.

"The unpleasant phenomena accompanying the removal of the patients own bone can be avoided through the use of a new synthetic material. Accordingly, when comparing the present results with the findings of other authors, β-tricalcium phosphate may be considered a good graft material even without autogenous bone."

Palti A, Hoch T (2002):
A Concept for the Treatment of Various Dental Bone Defects. Implant Dentistry 2002, 11: 73-78.

"We have treated almost 1000 bony defect sites in 267 patients with the bone regeneration material Cerasorb®. Being resorbed simultaneously with the formation of new bone, it is completely replaced by the patient's own vital bone within 6 to 12 months."

Palti A (2002):
Bone Regeneration with Cerasorb® – Restitutio ad Integrum. Dental Digest 2002.

"The pure-phase β-tricalcium phosphate Cerasorb® fulfils all requirements which to be termed "bone regeneration material" instead of "bone substitute material". It is resorbed simultaneously with the formation of new bone without any residue, thus providing the patient with own vital bone for implant insertion, the stabilization of adjacent teeth or just for aesthetic reasons."

Palti A (2002):
Regeneration knöcherner Strukturen durch augmentative Maßnahmen. [Regeneration of bony structures by augmentative measures]
Implantologie Journal 2002, 6 (5): 8-12. Article in German.

"Six to twelve months after the use of Cerasorb® the patient has vital bone at the implantation site. The time of regeneration depends on the patient's individual metabolism and the careful following of the operation protocol by the dentist (freshen of the bone, mixing with blood, using a membrane)."

Redeker J, Meyer-Marcotty M, Entezami A, Fluegel M (2002):
Erste Ergebnisse des Einsatzes von Cerasorb zur Auffüllung von Knochendefekten an der
Hand.
[Initial Results of Using Cerasorb to Fill Bone Defects in the Hand.]
Poster presentation, 43rd DAH Symposium, Vienna 2002. Poster in German.

"If the goal of treating of a bone defect is a rapid, unlimited and cost- effective restoration of the hand's functions, Cerasorb® seems to be superior to cancellous bone."

Wiltfang J, Merten HA, Schlegel KA, Schultze-Mosgau S, Kloss FR, Rupprecht S, Kessler P (2002):
Degradation Characteristics of α and β Tri-Calcium-Phosphate (TCP) in Minipigs. J Biomed Mater Res. 2002, 63: 115-121.

"The β-TCP material shows an accelerated degradation mode and has an optimal reactivity with the surrounding tissues. Compared to α-TCP the smaller-dimensioned β-TCP granules led to a finer architecture of the newly formed bone trabeculae, resulting in an early biofunctional adaptation of the bone substitute during the regeneration process."

2001

Bilk D (2001):
Augmentieren mit thrombozytenreichem Plasma (PRP) und CERASORB® - Eine erfolgreiche Kombination in der Implantologie.
[CERASORB® and PRP – a Successful Combination in Augmentative Implantology.] Oralchirurgie Journal 2001, 2: 12-19. Article in German (Translation in English available).

"The cases presented in this article document the successful use of the Cerasorb®-PRP-complex in sinus floor and alveolar crest augmentation. The resorption rate of Cerasorb® is synchronous with bone remodeling. Cerasorb® therefore is not a bone substitute but a bone regeneration material."

Bilk D (2001):
Sinuslift und modifiziertes Übertragungssystem. Die Versorgung einer verkürzten Zahnreihe im rechten Oberkiefer mit Hilfe von zwei ITI-Implantaten.
[Sinus lift and modified transfer system. The treatment of a shortened row of teeth in the right maxilla using two ITI implants.]
Starget 2001, 4: 18-19. Article in German (also available in English).

"It was possible to incorporate a denture after a period of only four months despite of only bone height of approx. 5 mm and an open sinus lift. This is considerably shorter than the times that have been usual hitherto with such operations."

Bilk D (2001):
Synthetisches Knochenaufbaumaterial in Kombination mit autologen Wachstumsfaktoren und Stabilisierung durch eine Titanfolie – Kasuistiken.
[Synthetic bone augmentation material in combination with autologous growth factors and stabilisation by a titanium foil – case reports].
Dent Implantol 2001, 5: 198-207. Article in German.

"Even larger defects can be regenerated successfully without the amendment of autologous bone with Cerasorb®, a pure-phase β-TCP ceramic, patients own PRP and stabilization of the augmentation material with a titanium foil."

Ifi JC, Bert M, Princ G, Szabo G (2001):
Utilisation du Substitut Osseux β-Phosphate Tricalcique. Étude préliminaire. - À propos d'un matériau de comblement.
Le Chirurgien-Dentiste De France No. 1055. 6 Dec 2001: 29-33.

"In 72 patients with different indications the transformation of the implanted beta-TCP into bone was complete after 12 months. Load- bearing tissue had already developed after 4-6 months. The study showed that autologous bone is not necessary for sinus grafting or the filling of cysts: beta-TCP alone is suitable for this purpose."

Iglhaut G (2001):
Die Atrophie des Alveolarknochens nach Zahnextraktion verhindern. [To avoid the atrophy of the alveolar crest after teeth extraction.]
DZW-Spezial 2001, 11: 28-33. Article in German.

"The combination of β-TCP Cerasorb® and PRP forms an augmentation complex that regenerates vital bone at the defect site. The alveolar ridge preservation technique with Cerasorb® and PRP should be used as standard treatment after teeth extraction."

Kisters GJ (2001):
Knochenersatz und nicht resorbierbare Membranen. Klinische Anwendung von alloplastischen Knochenersatzmaterialien und mikroporösen, nicht resorbierbaren PTFE- Membranen. Teil 1 – GTR.
[Bone replacement and non-resorbable membranes. Clinical use of alloplastic bone replacement material and micro-porous, non-resorbable membranes.]
Oralchirurgie Journal 2001, 4: 28-36. Article in German.

"In combination with TefGen membranes the bone regeneration material consisting of pure-phase β-TCP (Cerasorb®) mixed with blood from the defect and autologous bone has an osteoconductive effect and is totally resorbed. The risk-free use, the osteoconductive effect of the material and the complete resorption are the essential advantages."

Merten HA, Wiltfang J, Grohmann U, Hoenig JF (2001):
Intraindividual Comparative Animal Study of α- and β-Tricalcium Phosphate Degradation in Conjunction with Simultaneous Insertion of Dental Implants. J Craniofac Surg. 2001: 12 (1): 59-68.

"The interconnecting microporosity of the investigated special β-TCP, which should be no smaller than 5 µm, resulted in faster degradation and micro-osseous conduction, and exhibited better tissue response toward the ceramic in comparison with α-TCP."

Schmedtmann NO (2001):
Eine Methode zur sicheren und vorhersagbaren Knochenregeneration. [A method to obtain safe and predictable bone regeneration.]
Dentale Implantologie 2001, 5: 260-267. Article in German.

"Through the combination of phase pure β-tricalcium phosphate Cerasorb® with autogenous thrombocyte concentrate PRP (platelet rich plasma), the regeneration of bone defects in the jaw region could be optimized and the algesia reduced."

Schönmayr R, Schmieder K, Goetz Ch, Weinzierl FX, Eysel P (2001):
Anterior Cervical Interbody Fusion with new Titanium-Cages (WING®).
Poster presentation at the 12th Worldcongress of Neurosurgery, Sydney 2001.

"In combination with Cerasorb® no autologous bone had to be harvested, donor site morbidity could be avoided."

Schönmayr R, Ant MR, Melzer M (2001):
Anterior Cervical Interbody Fusion with PEEK-Plate-Cages (Scient'x®).
Poster presentation at the 12th Worldcongress of Neurosurgery, Sydney 2001.

"After a follow-up of 6 or 12 months respectively, radiologically there was a 100% fusion rate. The Cerasorb®–granules were completely resorbed."

Siervo S, Coraini C, Siervo P, Giardini R (2001):
Cerasorb® und PRP in der regenerativen parodontalen und implantatunterstützten Therapie. [Cerasorb® and PRP in regenerative periodontal and implant-supported therapy.]
Implantologie Journal 2001, 6: 49-58. Article in German.

"The osteoconductive properties of Cerasorb® associated to its resorption rate over time and the osteoinductive properties of PRP implement new bone formation."

Soost F (2001):
Validierung des Knochenumbaus von Knochenersatzmaterialien in der Mund-, Kiefer- und Gesichtschirurgie.
[Validation of the transformation of bone replacement materials in the oral and maxillo-facial surgery].
Professional Dissertation, Free University Berlin.
06.03.2001, P. 60-61. Written in German.

"Regarding the increase of the bone metabolism activity, the time- activity-curves of autogenous spongiosa and Cerasorb® are equally."

Szabo G, Suba Z, Hrabak K, Barabas J, Nemeth Z (2001):
Autogenous Bone Versus β-Tricalcium Phosphate Graft Alone for Bilateral Sinus Elevations (2- and 3-Dimensional Computed Tomographic, Histologic, and Histomorphometric Evaluations): Preliminary Results.
Int J Oral Maxillofac Implants 2001: 16 (5): 681-692.

"Comparisons of the present results with the findings of other investigators demonstrated that β-tricalcium phosphate is a satisfactory graft material, even without autogenous bone."

Wiltfang J, Schlegel KA, Merten HA (2001):
Klinische Ergebnisse nach Anwendung der resorbierbaren, phasenreinen β-Tricalciumphosphatkeramik Cerasorb® im enossalen Lager.
[Clinical results after application of resorbable, pure-phase β-tricalcium phosphate ceramic Cerasorb® in enossal bed.] ZWR 2001, 110 (9): 556-559. Article in German. (Translation in English available).

"Cerasorb® proved to be suitable in the treatment of the described lesions. Bony substitution occurred after 6-7 months in lesions up to 2 ml. In larger defects (up to 7 ml) bone substitution occurred after 12 months."

Wolf K, Hamar J, Moravec S, Farkas T, Höcherl E, Pfister C (2001):
Analysis of the Morphology of Intergranular Porosity of β-Tricalcium Phosphate in Relation to Development of Vasculoneogenesis in an Animal Experiment and Overview of the Indications for β-Tricalcium Phosphate in Human Patients. Applied Cardiopulmonary Pathophysiology 2001, 10 (2): 3-12.

"β-tricalcium phosphate is a useful implant material that encourages healing of bony defects and fractures. In keeping with the qualities required of a bone substitute, this material fulfills the role of a placeholder, forms a guide rail for osteogenesis and serves as a mineral depot."

Zerbo IR, Bronckers AL, de Lange GL, van Beek GJ, Burger EH (2001):
Histology of human alveolar bone regeneration with a porous tricalcium phosphate. Clin Oral Implants Res. 2001, 12: 379-384.

"The data presented suggest that this graft material, possibly by virtue of its porosity and chemical nature, may be a suitable bone substitute that can biodegrade and be replaced by new mineralizing bone tissue."

2000

Foitzik C (2000):
Anwendung und Erfahrungen mit phasenreinem β-Trikalziumphosphat in der Mund-Kiefer-Gesichtschirurgie.
[Application and experience with pure phase β-tricalcium-phosphate in oral and maxillo-facial surgery.] Article in German.
TraumaLinc 2000, 1: 74-80.

"In oral and maxillo-facial surgery, bony defects can be filled safe and with favourable results with the bone augmentation material Cerasorb®. Experiences with non- or purely resorbable hydroxyapatite ceramics were rather unfavourable in the long term."

Kreusser B, Jakobs W (2000):
Wenn der Knochen nicht gut genug ist. Chirurgische Konzepte zur Verbesserung des Implantatlagers.
[If bone is not good enough. Surgical conceptions to improve the implant sites.] Implantologie Journal 2000, 4: 8-13. Article in German.

"Different correctional procedures enable the surgeon to substitute insufficient bone support by means of one stage or two stage surgery. The insertion of dental implants will keep their outstanding ranking only if the different build-up techniques are performed safely and responsible. In most cases Cerasorb®, a pure-phase β-TCP ceramic was successfully used."

Merten HA, Hönig JF, Krantz C, Wiltfang J (2000):
Histomorphologische Untersuchungen zum Resorptionsverhalten phasenreiner TCP- Keramiken im Tibiadefekt des adulten Minipigs.
[Histomorphological examinations on the resorption of pure-phase βTCP ceramics in tibia defects in the adult mini-pig.] Osteosynthese International 2000, 8 (Suppl. 1): 107-110. Article in German.

"Within 15 to 18 months Cerasorb®, the pure-phase β-TCP ceramic, is entirely substituted by bone in an artificial marrow canal defect and, in an ideal way fulfills the requirements placed on an osteo-potent bone regeneration material."

Merten HA, Ludwig A, Wiltfang J, Hönig JF (2000):
Protegierte knöcherne Regeneration von klinisch relevanten Tibiadefekten mit phasenreiner βTCP-Keramik beim adulten Minipig.
[Bony regeneration of tibia defects with clinical relevance with pure-phase βTCP ceramic in the adult mini-pig.]
Osteologie 2000, 9 (Suppl. 1): 40. Article in German.

"Within 68 weeks Cerasorb®, a pure-phase β-TCP ceramic is completely degraded and substituted by bone. Histologically, RES-contamination with ceramic particles can be excluded. Clinically, the β-TCP ceramic Cerasorb® can be recommended for the filling of bone defects."

Reinhardt C, Kreusser B (2000):
Retrospektive Studie nach Implantation mit Sinuslift und Cerasorb®-Augmentation. [Retrospective Study of Dental Implantation with Sinus Lift and Cerasorb® Augmentation.]
Dentale Implantologie 2000, 4: 18-26. Article in German.

"Thanks to its high biocompatibility and the fact that to some extent it forms a template for bone regeneration, β-tricalcium phosphate in the form of Cerasorb® is in many respects at least in value to autologous bone. Similarly, the success rate of 99% (with 50 patients) ... using Cerasorb® alone is comparable to that achieved with autologous bone. An additional benefit of this procedure is that it does not result in a second operation.

The osseointegration of the β-tricalcium phosphate was investigated histologically and radiologically. The rate of resorption of Cerasorb® was found to be the same as the rate of local bone regeneration. After six months the reconstructed trabecular architecture was considered on the basis of histological criteria to be suitable for insertion of a dental implant."

Szucs A, Suba Z, Martonffy K, Hrabak K, Gyulai-Gaal S, Dori F, Szabo G (2000):
[The value of beta-tricalcium-phosphate (CERASORB) in pre-prosthetic surgery]. Fogorvosi szemle 2000, 93 (2): 45-52. Article in Hungarian.

"In 52 patients with different indications the transformation of the implanted beta-TCP into bone was complete after 12 months. Load- bearing tissue had already developed after 4-6 months. Studies suggest that autologous bone is not necessary for sinus grafting or the filling of large cysts: Cerasorb® alone is suitable for this purpose."

1999

Foitzik C, Staus H (1999):
Phasenreines β-Trikalziumphosphat zum Knochenersatz bei parodontaler Indikation. [Pure-phase β-tricalcium phosphate for bone substitution in periodontal disease.]
Die Quintessenz 1999, 50 (10): 1049-1058. Article in German.

"Synthetic pure-phase β-tricalcium phosphate is of special interest among the available bone substitutes, as this material is fully resorbed and replaced by natural local bone within a reasonable period of time. The favourable clinical results with pure-phase β-TCP as bone substitute broaden the range of indications for treating periodontal bony defects."

Foitzik C, Staus H (1999):
Treatment of periodontal defects with pure-phase β-tricalcium phosphate implant. ZWR 1999, 6: 378-383.

"Use of a combination of pure-phase β-tricalcium phosphate and resorbable membranes can lead to clinically favourable outcomes, even in high-risk procedures or where the risk of infection is high. Risks of immunological reactions and the transmission of pathogenes are not inherently associated with synthetic pure-phase β-TCP."

Gruber AA (1999):
Erfahrungen mit Cerasorb® in der Praxis des niedergelassenen Chirurgen. [Experience with Cerasorb® in the practice of an independent surgeon.]
Der niedergelassene Chirurg 1999, 3 (6): 37-40. Article in German.

"The material is broken down fully and replaced with bone, e.g. when filling bone defects caused by tumors, when performing bone substitution for remodelling and fracture cases or to bridge or fill-in defects to achieve bone union."

Gruber AA (1999):
Practical Applications of a Bone Substitute – Beta-tricalcium Phosphate in Hand Surgery. TraumaLinc 1999, 2: 50-58.

"The use of beta-tricalcium phosphate removes the need for additional surgery to obtain spongy bone, thus significantly reducing operation time. Cerasorb® is thus a highly suitable material for bone regeneration in the field of hand surgery and traumatology."

Staus H, Foitzik C (1999):
Implantatinsertion bei gleichzeitiger Augmentation des Kieferkammes. Fallbeschreibungen mit β-Tricalciumphosphatkeramik.
[Implant insertion and augmentation of the alveolar crest in a one stage operation. Case studies with β-tricalcium-phosphate ceramic.] Implantologie Journal 1999, 4: 12-15.
Article in German.

"The disadvantage of transferring autogenous bone is obvious. The employment of a synthetic resorbable bone-replacing material (β-TCP, Cerasorb®) and its complete substitution by endogenic bone will exclude the transfer of pathogenic germs and any precarious immunoreaction."

1998

Kreusser B (1998):
Augmentation and sinus floor elevation with pure β-TCP: Good results even without adding autologous cancellous bone. Die Zahnarztwoche (DZW) Spezial 1998; week 12: 22-24.
Article in German.

"The use of Cerasorb® only is a safe procedure for sinus lifts. The quality of the augmented bone seems to render the addition of autologous cancellous bone superfluous. The material helps to generate the quantity and quality of endogenous bone material that is necessary for placing implants."

1997

Foitzik C, Stamm M (1997):
Einsatz von phasenreinem β-Tricalciumphosphat zur Auffüllung von ossären Defekten - Biologische Materialvorteile und klinische Erfahrungen.
[The use of single-phase β-Tricalciumphosphate to fill osseous defects - Biological advantages and clinical practice.]
Die Quintessenz, October 1997, 48 (10): 1365-1377, Reprint, Article in German.

"The pure-phase β-TCP Cerasorb® has been used in 86 cases. After a follow-up period of 20 months, X-ray examination showed an improvement of the clinical findings in nearly all patients."

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