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Titel des Beitrags: Synthetic, pure-phase beta-tricalcium phosphate ceramic granules (Cerasorb®) for bone regeneration in the reconstructive surgery of the jaws.

Abstract: The aim of this study was to investigate the long-term effect of the ceramic beta-tricalcium phosphate (beta-TCP) at different sites of alveolar reconstruction and to evaluate its properties. From 1997 to 2002, beta-TCP was implanted as bone substitute in 152 patients using a standardized study protocol. Main indications were the filling of large mandibular cysts (n=52), secondary and tertiary alveolar cleft grafting (n=38), periodontal defects (n=24) and maxillary sinus floor augmentation (n=16). For defects exceeding 2cm in diameter, beta-TCP was combined with autologous bone taken from the retromolar area, the maxillary tuberosity or the chin region. A radiological, clinical and ultrasonographical examination was carried out 4, 12 and 52 weeks postoperative. In 16 cases, biopsies were taken after 12 months indicating complete bony regeneration. While wound-healing disturbances occurred in 9.2% of cases, partial loss of the bone substitute material was found in 5.9%, while total loss occurred in only 2%. Complete radiological replacement of beta-TCP by autologous bone was found after approximately 12 months, indicating its osteoconductive properties. Because of its versatility, low complication rate and good long-term results, synthetic, pure-phase beta-TCP is a suitable material for the filling of bone defects in the alveolar