C-18. Histologic and clinical evaluation for maxillary sinus augmentation using macroporous biphasic calcium phosphate in humans

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Background

Several bone grafting materials have been used in sinus augmentation procedures. Macroporous Biphasic Calcium Phosphate(MBCP^{TM}) consists of the mixture of 60% HA and 40% β-TCP. Therefore, it can provide good scaffold for the new bone to grow owing to HA, in the other hand, it can have bioactivity for bone remodeling owing to β-TCP. The purpose of this study was to evaluate bone formation following maxillary sinus augmentation using MBCP^{TM} by means of histologic analysis.

Materials and Methods

MBCP^{TM} was placed as a primary bone substitute for maxillary sinus augmentation. Thirty five patients were selected after evalaution of their medical and dental examination and devided into three groups. MBCP^{TM} only, MBCP^{TM} combined with Irradicated cancellous bone and MBCP^{TM} combined with autogenous bone were used for each group. After six months, bone biopsies were harvested for histologic evaluation and fixtures installed.

Results & Conclusion

Six to ten months after surgery we observed new vital bone surrounding MBCP^{TM} particle and the amount of new bone was about 30% even though there were discrepancies between specimens. These results documents that MBCP^{TM} when used as a grafting material for sinus floor augmentation whether combined other bone graft material or not, may lead to thepredictable results for dental implants on posterior maxillary area with insufficient vertical height for fixture installation.

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