Conclusion

Within the limitations of this study, it can be deduced that application of a desensitizing laser may be an efficient treatment option for the occlusion of dentinal tubule apertures. LP/LT irradiation (74%) and HP/ST irradiation (70%) were found to be the most effective treatment modalities for dentinal tubule occlusion.

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Literature Abstract

Does platelet-rich plasma promote remodeling of autologous bone grafts used for augmentation of the maxillary sinus floor?

The aim of this study was to evaluate the effect of platelet-rich plasma (PRP) on remodeling of autologous bone grafts used for augmentation of the floor of the maxillary sinus. Five edentulous patients suffering from insufficient retention of their upper denture related to a severely resorbed maxilla were included in this study. The inclusion criteria besides a severely resorbed maxilla (Classes v-VI, Cawood & Howell 1991) were: *(1)* comparable bone height between maxillary sinus and top of the maxilla on both sides, *(2)* Class IV bone quality (Lekholm & Zarb 1985), *(3)* edentulous for at least 1 year, *(4)* no history of radiotherapy, and *(5)* no history of reconstructive or preprosthetic surgery. The floor of both maxillary sinuses was augmented with an autologous bone graft from the iliac crest. Randomly, PRP was added to the bone graft used to augment the floor of the left or right sinus (split-mouth design). Blood test was taken before application of PRP, immediately after application and 24 hours later to rule out the possibility of a systemic elevation of TGF-ß. Three months after the reconstruction, bone biopsies were taken with a trephine from the planned implant sites (n = 30). Subsequently, 3 implants were placed in the left and right posterior maxilla. Microradiograms were made of all biopsies (n = 30), whereafter the biopsies were processed for light microscopic examination. In addition, clinical parameters were scored. Wound healing was uneventful, clinically no difference was observed between the side treated with PRP or not. Also microradiographical and histomorphological examination of the biopsies revealed no statistical difference between the PRP- and non-PRP side. One implant placed in the PRP side of the graft was lost during the healing phase. Implant-retained overdentures were fabricated 6 months after implantation. All patients functioned well (follow-up 20.2 ± 4.3 months). In this study, no beneficial effect of PRP on wound healing and bone remodeling was observed. It is posed that PRP has no additional value in promoting healing of grafted non-critical size defects.

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