

28<sup>th</sup> Asia Pacific Congress on

# DENTAL AND ORAL HEALTH

July 10-12, 2017 Kuala Lumpur, Malaysia

## Evaluation of soft and hard tissue healing with and without bone grafts after mandibular third molar surgical removal

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The aim of the study was to evaluate the soft and hard tissue healing with and without bone grafts after removal of impacted mandibular third molars. Objectives included evaluation of bone formation on radiographs, as well as measuring the probing depth and dentinal hypersensitivity at the surgical site pre and post removal impacted mandibular third molar. 60 sites in 30 patients with horizontally impacted mandibular third molars were selected for the study. In a split-mouth design study, in all 60 sites, surgical removal of mandibular impacted third molars was done. Randomly selected 30 sites received alloplastic bone graft material. Remaining 30 sites acted as controls. Parameters measured included pocket depth distal to the mandibular second molar. Radiographs (OPG) were obtained and hypersensitivity was measured at 10 days, 3 months and 6 months after the surgery. Mean pocket depth distal to mandibular second molar decreased significantly in experimental site compared to the control site. Dentinal hypersensitivity was not seen in the experimental sites. Around 53% (n=16) of the patients complained of sensitivity around the surgical area at the end of three months. Bone density around the experimental site was found to be denser based on the Bone J analysis. Removal of horizontally impacted mandibular third molar can create a bony defect, which results in soft tissue collapse. Literature supports the use of bone grafts after surgical removal of impacted third molars. Advantages include denser bone, optimum soft tissue closure, and decreased pocket depth distal to mandibular second molar and reduced sensitivity around the operated area. Placement of bone grafts after removal of horizontally impacted mandibular third molars resulted in better soft and hard tissue healing.

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