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Evaluation of healing outcome after endodontic surgery using platelet rich fibrin and bone graft: An *in vivo* study

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Synthetic bone graft are commonly used modality in endodontic surgery which bring about healing by osteoconduction. More recently, biological modulators like platelet rich fibrin have been used to promote bone regeneration by osteoinduction. This study aims to evaluate and compare bone regeneration of endodontically induced periapical lesion treated surgically, in maxillary anterior region using bone graft and platelet rich fibrin as the regenerative therapy. 30 patients with indication for surgical endodontic treatment were selected. Thorough periapical curettage was performed and subjects were then randomly divided into 3 groups. Group 1 served as control group in which no substitute was used. In Group 2, autologous platelet rich fibrin was used and in Group 3 synthetic bone graft containing hydroxyapatite and tricalcium phosphate was used. Volumetric measurements of periapical lesions at 48 hours (base line), 9, 12, 24 and 30 months in post-treatment CBCT images were performed. Healing outcome was evaluated on the basis of change in volume of the lesions. Tukey test was applied. Volumetric reduction in periapical radiolucencies from the base line was statistically significant in all cases ($p<0.05$). Reduction in volume was significantly higher in Group-II than Group-III at 9 month evaluation ($p=0.04$) and at 12 month evaluation, ($p=0.045$). However, volume reduction was insignificant in Group-II compared to Group-III at 24 month ($p=0.22$) and at 30 month evaluation, ($p=0.35$). Platelet rich fibrin showed faster bone regeneration compared to synthetic bone graft when used for regenerative therapy in surgical endodontic treatment.

Biography

Pragya Pandey has completed her Graduation and Postgraduation from King Georges Medical University, Lucknow, India. Presently, she is working as an Assistant Professor in the Department of Conservative Dentistry and Endodontics in King Georges Medical University, Lucknow. She has published in many reputed journals and has received eight certificates of honor during her graduation.

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