

Title: The Efficacy of Platelet-Rich Plasma as an Adjunct to Bone Grafting in Alveolar Ridge Preservation Following Tooth Extraction

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Abstract: Background: Tooth extraction often results in bone loss in the alveolar ridge, which can complicate subsequent dental implant placement. Alveolar ridge preservation (ARP) techniques, such as bone grafting, aim to mitigate this bone loss. Platelet-rich plasma (PRP) has been proposed as an adjunct to bone grafting in ARP to enhance bone regeneration.

Materials and methods: A total of 60 patients requiring tooth extraction and ARP were included in this randomized controlled trial. Patients were divided into two groups: Group A received bone grafting alone, while Group B received bone grafting with PRP. Clinical and radiographic assessments were performed at baseline and 6-month postsurgery. Bone density and height were measured using arbitrary values.

Results: At the 6-month follow-up, Group B demonstrated a statistically significant increase in bone density ($P < 0.05$) and bone height ($P < 0.05$) compared to Group A. The arbitrary values for bone density in Group B increased by 15% and bone height increased by 10% compared to baseline measurements. Group A showed minimal improvement.

Conclusion: The incorporation of PRP as an adjunct to bone grafting in ARP following tooth extraction significantly enhances bone density and height, suggesting its efficacy in preserving the alveolar ridge.

Keywords: Alveolar ridge preservation; bone grafting; dental implants; efficacy; platelet-rich plasma; tooth extraction.

<https://pubmed.ncbi.nlm.nih.gov/38595415/#:~:text=Conclusion%3A%20The%20incorporation%20of%20PRP,in%20preserving%20the%20alveolar%20ridge.>

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