

Nevins et al., 2005

 11 Study Centers  180 Patients  6 Month Follow-up



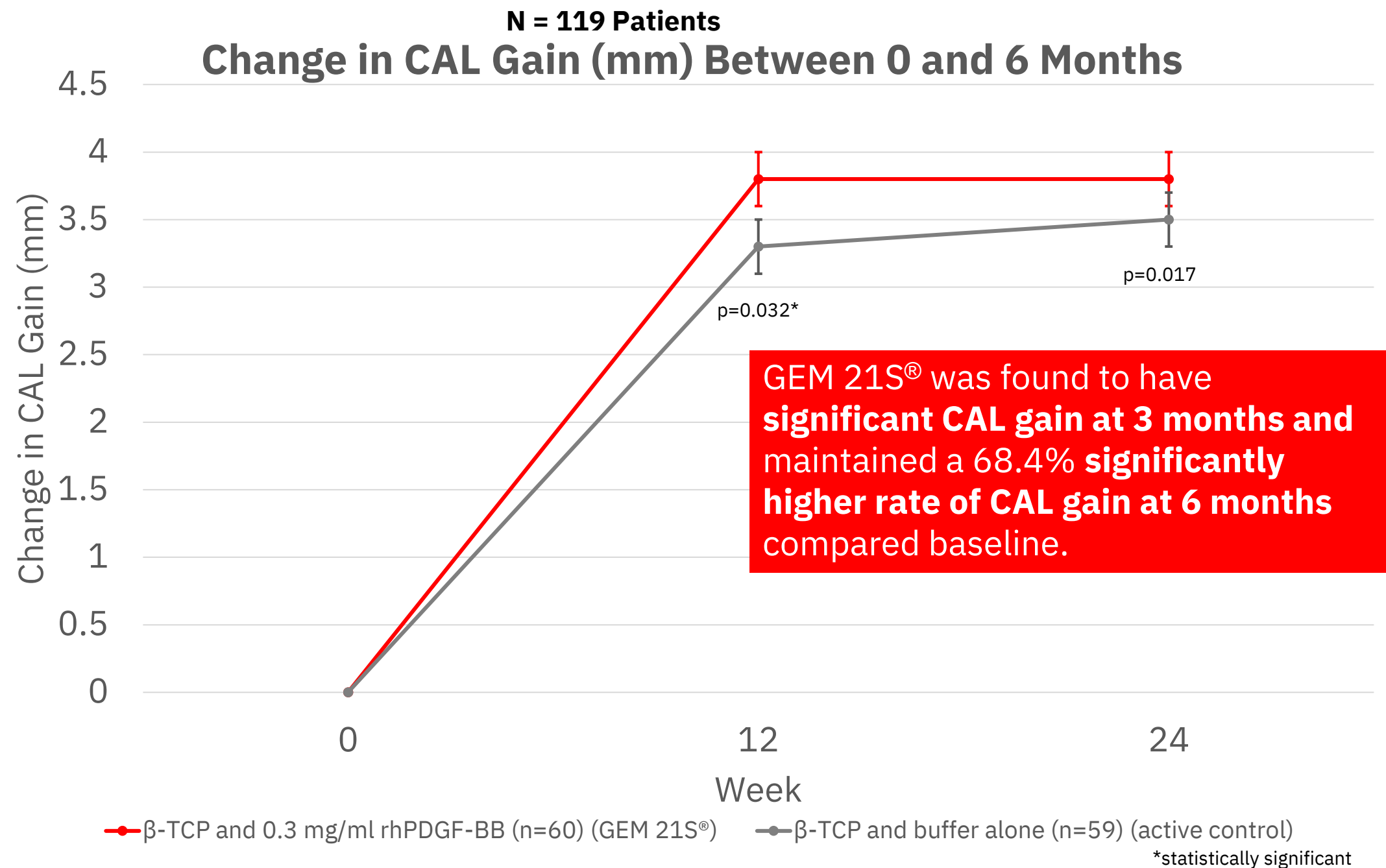
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Periodontal Defects

Platelet-derived growth factor stimulates bone fill and rate of attachment level gain: results of a large multicenter randomized controlled trial

Change in Clinical Attachment Levels

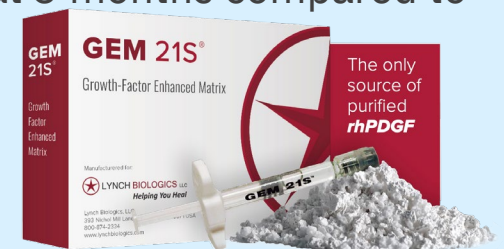


Key Message

The study highlights the safety and efficacy of GEM 21S[®] for treating periodontal defects, showcasing notable benefits including increased Clinical Attachment Level (CAL) gain, reduced gingival recession, and improved bone fill compared to β-TCP alone.

Study results

1. CAL gain significantly favored GEM 21S[®] (β-TCP + rhPDGF 0.3 mg/ml) over β-TCP + buffer at 3 months (3.8 versus 3.3 mm; p = 0.032).
2. GEM 21S[®] maintained a significantly higher rate of CAL gain between baseline and 6 months compared to β-TCP + buffer (AUC: 68.4- versus 60.1-mm weeks; p = 0.033).
3. Sites treated with GEM 21S[®] exhibited substantially greater linear bone gain (2.6 versus 0.9 mm, respectively; p <0.001) and percent defect fill (57% versus 18%, respectively; p <0.001) compared to those receiving β-TCP + buffer at 6 months.
4. GEM 21S[®] showed less gingival recession at 3 months compared to group 3 (p = 0.04).



Multicenter pRCT
blinded



160 patients



11 study centers



Up to 6
Months



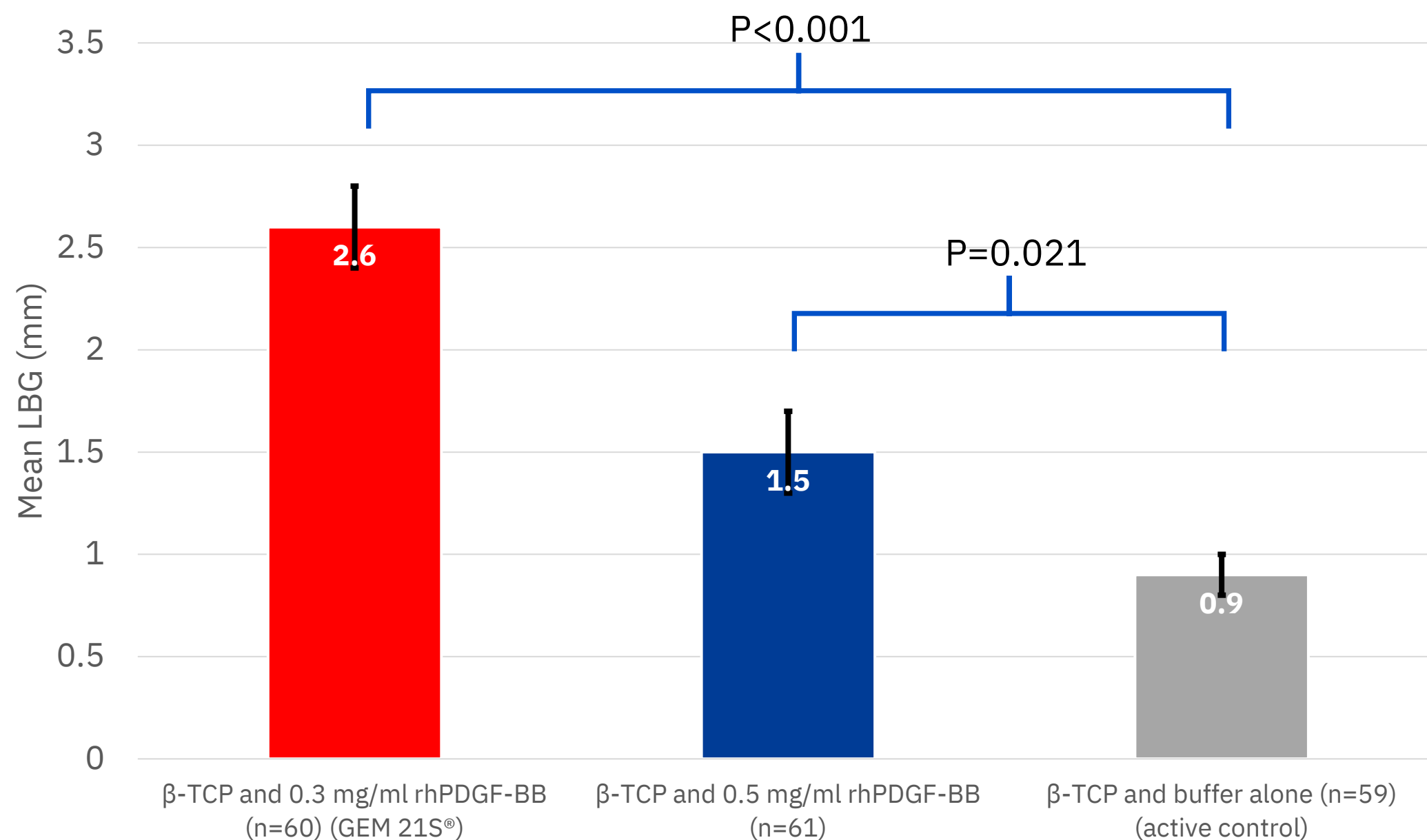
Assess the safety and efficacy of purified recombinant human platelet-derived growth factor (rhPDGF-BB) combined with a synthetic beta-tricalcium phosphate (β-TCP) matrix in treating advanced periodontal osseous defects over a 6-month healing period.

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Radiographic Linear Bone Growth (LBG) at 6 Months

LBG - CEJ to base of Defect at Baseline – CEJ to base of Defect at 6 months

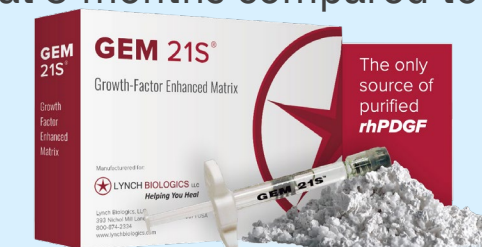


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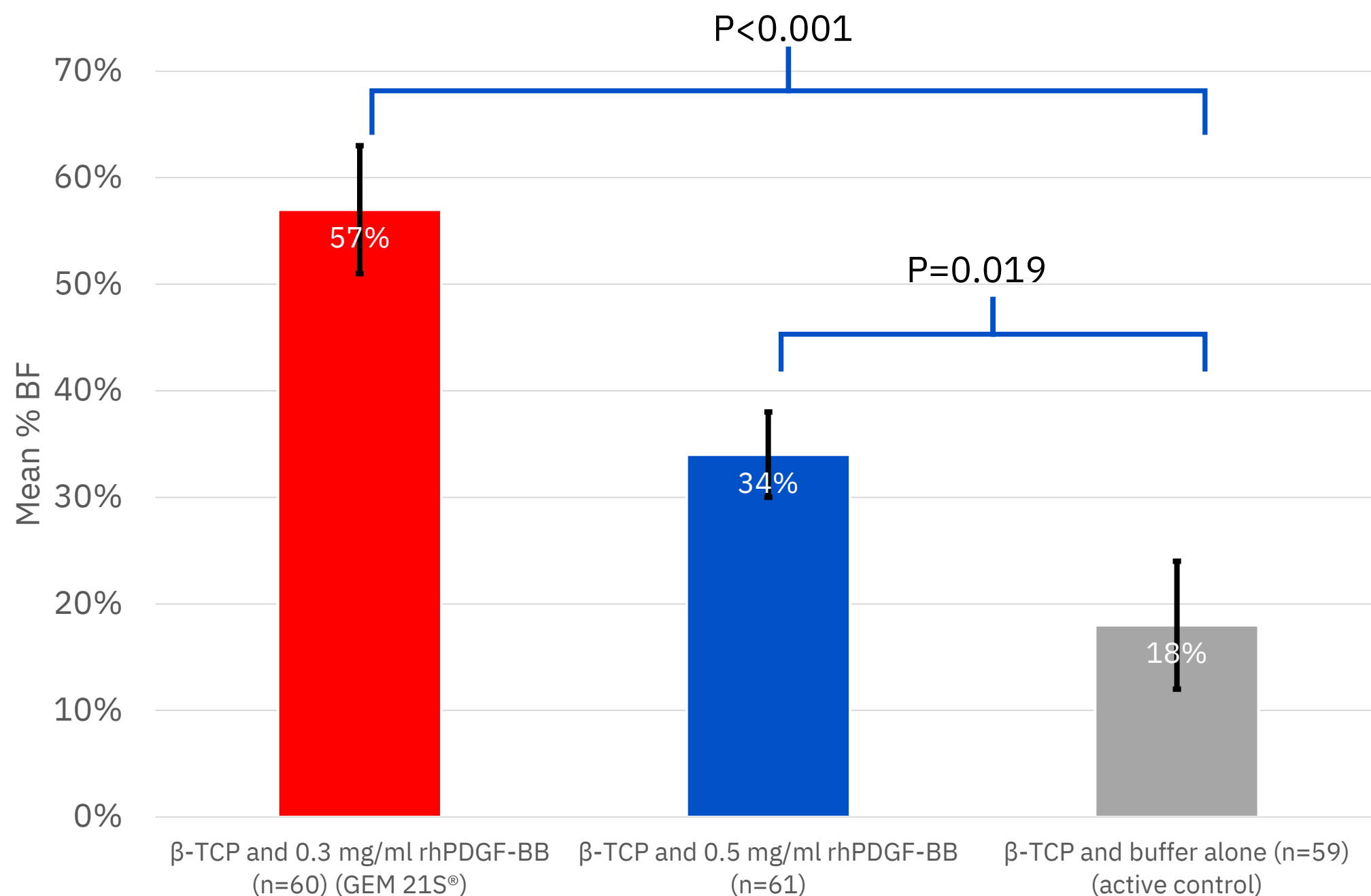


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Radiographic Percent Bone Fill (% BF) at 6 Months

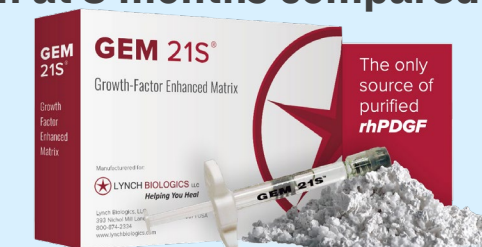


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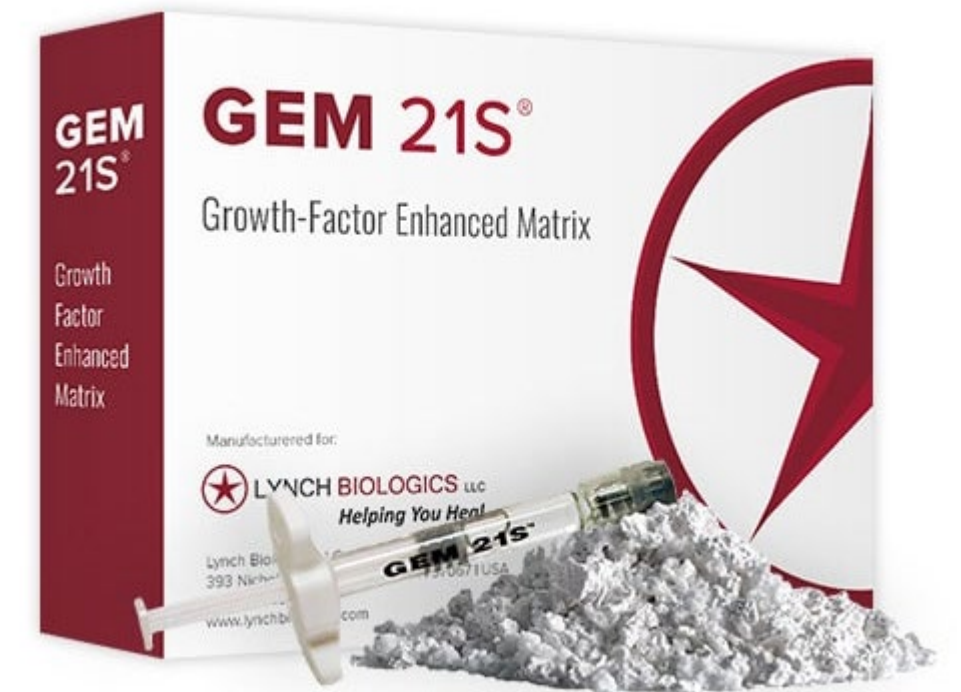
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Key Takeaways with GEM 21S® (β-TCP + rhPDGF 0.3 mg/ml)

1. Significantly improved CAL gain between baseline and 6 months
2. Significantly improved LBG compared to β-TCP plus buffer at 6 months
3. Significantly improved radiographic % BF at 6 months
4. Reduced recession at 3 months post-surgery



Nevins et al. J Periodontol. 2005 Dec;76(12):2205-15 [Read now.](#)

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