Prospective Analysis of a New Bone Graft in Lumbar Interbody Fusion: Results of a 2-Year Prospective Clinical and Radiological Study

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Background: This study examined the efficacy and safety of bone graft material i-FACTOR™ Peptide Enhanced Bone Graft for use in posterior lumbar interbody fusion. i-FACTOR Bone Graft has been used safely for more than a decade in dental applications.

Methods: Forty patients underwent PLIF, with each patient as control. Assessments up to 24 months included radiographs, CT scan, VAS, and ODI. Primary success criteria were fusion and safety.

Results:

Fusion Rates			
Time	**i-FACTOR Bone Graft**	**Autograft**	**p-value**
6-months	97.7%	59.1%	<0.01
12-months	97.8%	82.2%	<0.01
24-months	95.6%	93.3%	Not significant

Conclusions: This study suggests that i-FACTOR Bone Graft has equal or greater efficacy at 6 and 12 months. Pain improvement exceeded success criteria at all time points. Functional improvement exceeded success criteria at all time points.

Key Points:

- i-FACTOR Bone Graft is statistically superior to autologous bone in facilitating formation of bridging bone in cages at 6- and 12-months.
- i-FACTOR Bone Graft is associated with faster formation of bridging bone when compared to autologous bone in patients undergoing PLIF.
- There are alternatives to iliac crest bone graft, including i-FACTOR Bone Graft, that are equally or more effective in the formation of bridging bone.