

Abstract: 235**Marked Improvement in Patients Treated with Vertebroplasty after Painful Osteoporotic Compression Fractures**

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Introduction: Vertebroplasty is a common procedure used to treat painful osteoporotic vertebral compression fractures. Several recent studies report limited reduction in pain and disability after treatment with either vertebroplasty or a sham procedure. Outcomes following vertebroplasty are reported herein.

Methods: A post-hoc analysis of data was conducted on self-reported pain and disability outcomes from patients at one participating site in a multicenter, prospective, randomized clinical trial (RCT). Patients underwent vertebroplasty with either 'Cortoss' or 'PMMA' cements from February 2004 to December 2008. The 'serial self-reported outcome measures,' were compared to pre-treatment values using ANOVA to determine improvement which was defined as decreased pain and increased function.

Results: A total of 50 fracture levels were treated in 44 patients (ages ranging 61 to 98 years). Subsequent fractures were observed in 15 (34.9%) patients over the 36 month follow-up period.

The average VAS pain was 6.73 ± 2.04 pre-operatively. After treatment, VAS was 3.82 ± 2.68 at 72 hours, 3.46 ± 2.74 at 1 week, 2.86 ± 3.00 at 3 months, 2.37 ± 2.94 at 6 months, 2.47 ± 2.78 at 12 months, and 3.05 ± 3.24 at longest follow-up of 24 to 36 months (*all post-op < pre-op, p < 0.01*). The average ODI score was 32.08 ± 8.53 pre-operatively. After treatment, ODI was 22.17 ± 9.71 at 1 week, 17.04 ± 10.65 at 3 months, 15.22 ± 10.92 at 6 months, 15.73 ± 10.65 at 12 months, and 16.48 ± 10.94 at longest follow-up of 24 to 36 months (*all post-op < pre-op, p < 0.01*). Average improvements were 54.7% less VAS pain and 48.6% less ODI disability.

Discussion: Contrary to recent reports of pain improvement of 1.5-2.4%¹ vs. 43%², this study showed a 48% to 54% significant improvement in disability and pain as early as 72 hours among patients who had vertebral compression fractures treated with vertebroplasty.

References:

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2. Kallmes, DF, Bryan, CA, Heagerty, PJ. A Randomized Trial of Vertebroplasty for Osteoporotic Spinal Fractures. *The New England Journal of Medicine*. 2009; 361; 569-79