Vertebroplasty for the Treatment of Osteoporotic Compression Spinal Fracture: Comparison of Remedial Action at Different Stages of Injury

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摘要

Abstract

BACKGROUND: Outstanding results have been achieved using vertebroplasty for the treatment of osteoporotic compression spinal fractures, and a number of studies have reported the results from the application of this procedure. This study compared the results of vertebroplasty used at the different stages of injury. METHODS: A retrospective study reviewing the period between January 2001 and July 2001 investigated 68 patients who underwent single-level vertebroplasty: 22 patients within 2 weeks of the injury, 22 patients 2 weeks to 2 months after the injury, and 24 patients more than 2 months after the injury. Clinical evaluations compared the results of treatment at different injury stages during a mean follow-up period of 13 months. RESULTS: Although all the patients undergoing vertebroplasty in the acute and subacute stages reported satisfaction within 1 week of the operation, only 72.7% of the acute-stage group reported satisfaction with 24 hours of surgery. Moreover, evidence of cement leakage after vertebroplasty was detected for 27.3% of the acute-stage patients. This percentage significantly higher than for the patients in the subacute and chronic stages. Radiographic examination showed that new, adjacent compression fracture had occurred for 10.3% of the patients, with anterior interbody restabilization occurring for 11.8%. CONCLUSIONS: The results for vertebroplasty treatment of osteoporotic compression fractures appear to be injury stage dependent, with patients in the acute-injury stage needing longer recovery times, and with cement leakage quite common. These findings lead to the conclusion that the subacute stage is optimal for vertebroplasty. Furthermore, it is suggested that the use of spinal

orthoses and postsurgical supplementation for the bone matrix reduces the risk of new, adjacent compression fractures and increases anterior interbody restabilization. Importantly, the findings suggest that a presurgical magnetic resonance imaging evaluation is an absolute necessity.