The Efficacy of Percutaneous Vertebroplasty in Pain Relief in Patients with Pathological Vertebral Fractures due to Metastatic Spinal Tumors.

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Abstract

BACKGROUND: Metastatic spinal tumors are common and major causes of pathological spinal fractures that result in severe pain, weakness, and progressive neurological deficits. This study aims to evaluate the efficacy of percutaneous vertebroplasty (PVP) in pain-relief in patients with spinal fractures due to metastatic spinal tumors.

METHODS: We evaluated 25 documented cases of metastatic spinal tumors with pathologic vertebral fractures who were suffering from severe pain and underwent vertebroplasty. Degree of pain was measured by visual analog scale (VAS). The symptoms were evaluated 24 hours and 2 months after vertebroplasty regarding the degree of pain relief. Complications such as leakage, embolism and infection were assessed.

RESULTS: Mean VAS score was 8.23 before therapy in the patients that was reduced to 2.12 and 1 in the patients 24 hours and 2 months after vertebroplasty, respectively. The most common complication was cement leakage (44%) and there was no embolism or infection. Data was analyzed by SPSS version 18 software through ANOVA test with Greenhouse-Geisser correction and P-value of 0.00 was obtained in the patients 24 hours and 1 month after surgery.

CONCLUSION: Considering significant decrease in the mean pain severity degree after the treatment, vertebroplasty seems to be significantly effective in pain relief in metastatic spinal tumors.

KEYWORDS: Pain, Polymethylmethacrylate (PMMA), Spinal metastasis, Spine, Tumors, Vertebroplasty