

Significant Improvements in Pain, Disability, Quality of Life and Overall Health with Use of Balloon Kyphoplasty for Vertebral Compression Fractures in Medicare-Eligible Patients Despite Minimal Improvements in Vertebral Body Height an

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Introduction

Osteoporotic and neoplastic vertebral compression fractures (VCF) are common and painful. In the U.S., there are more than 1.5 million vertebral fractures annually and 40% of those over the age of 80 will experience this pathology, threatening quality of life and increasing morbidity and mortality. Kyphoplasty is a minimally invasive surgery to stabilize the fracture and recent EVOLVE analysis demonstrated minimal improvement in kypohotic angulation or vertebral body height, however, patients demonstrated significant improvements in pain, disability, quality of life and overall health.

Methods

Prospective, multicenter 12-month clinical study of outcomes pertaining to activities of daily living, pain, quality of life, and safety parameters in a Medicare-eligible population treated with kyphoplasty for painful acute or subacute VCFs associated with osteoporosis or cancer.

Results

NRS back pain improved from 8.7 (scale 0-10) by 5.2, 5.4, 6.0, 6.2 and 6.3 points, at the 7-day, and the 1, 3, 6 and 12-month time points, respectively. ODI improved from 63.4 (scale 0-100) by 30.5, 35.3, 36.3 and 36.2 points, at the 1, 3, 6 and 12-month time points, respectively. The SF-36 PCS was 24.2 at baseline (scale 0-100) and improved 10.7, 12.4, 13.4 and 13.8 points, at 1, 3, 6 and 12 months. The EQ-5D was 0.383 points (scale 0-1) and improved 0.316, 0.351, 0.356 and 0.358 points, at 1, 3, 6 and 12 months. All measures were statistically significant with p< 0.001 at every time point. Despite these significant improvements in pain, disability, qulity of life and overall health, there were only modest, but significant improvements in kyphotic angulation (1.1° improvement) and vertebral body height (4% improvement).

Conclusions

This large, prospective, multicenter study trial demonstrates that utilization of kyphoplasty for vertebral compression fractures provides significant improvements in pain, disability, quality of life, and overall health despite modest improvements in kyphotic angulation and vertebral body height in Medicare-eligible patients.

Learning Objectives

By the conclusion of this session, participants should be able to: 1)Describe the results of the largest outcomes trial for balloon kyphoplasty in medicare-eligible patients with vertebral fractures, 2) Put this data in context of minimal improvements in kyphotic angulation and vertebral body height restoration, 3) Discuss how many benefits of balloon kyphoplasty may not be due to kyphotic angulation correction or vertebral height restoration.

References

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