

Introduction

Balloon kyphoplasty is a well-accepted treatment for symptomatic compression fractures. Concern has been raised regarding unacceptable morbidity and poor outcomes in very elderly patients who undergo the procedure. This study was undertaken to evaluate a series of very elderly patients who underwent balloon kyphoplasty.

Methods

A retrospective cohort evaluation was performed of a consecutive series of 137 patients over age 80 who underwent treatment for compression fractures between 2006 and 2012 using the Balloon Kyphoplasty (Medtronic) technique. The indication for treatment included pain unresponsive to non-surgical management in all cases. There were 34 men and 103 women (mean age 88, range 80-99 years). One hundred eighteen fractures were osteoporotic (22 had history of trauma), and 19 were pathologic.

Results

All procedures were successfully completed under general anesthesia. Forty-two patients were treated in an outpatient setting. Comorbidities included history of DM (n=18), HT (n=93), PE (n=11), CAD (n=50). A total of 216 levels were treated, most common being L1 (n=34) and L2 (n=32). Seventy-five patients had a single level treated, 50 had 2 levels treated, and 12 had 3 levels treated. Range of levels treated spanned from T4 (n=2) through L5 (n=6). Back pain improvement was used as the primary outcome measure. The mean VAS score for back pain improved from 9 to 3.5 ($p < 0.0001$). There were no cases of infections, cement extravasation, or new neurologic deficit. Twenty-eight patients expired due to causes unrelated to the procedure during the follow-up period. Eighteen (13%) patients underwent a second procedure at a mean interval of 7 weeks; 11 (8%) were performed at a level adjacent to the index level.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of balloon kyphoplasty in relieving pain from compression fractures in the patient population more than 80 years of age. 2) Identify and discuss the safety of balloon kyphoplasty in a population with multiple comorbidities.

Conclusions

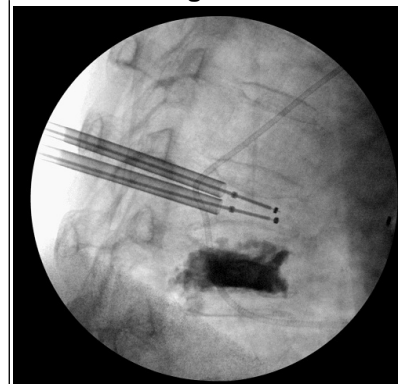
Balloon kyphoplasty is a safe and highly effective treatment for symptomatic compression fractures, even for very elderly patients. The procedure can be performed in an outpatient setting. Age alone should not be an exclusion criterion for candidate patients.

Figure 1



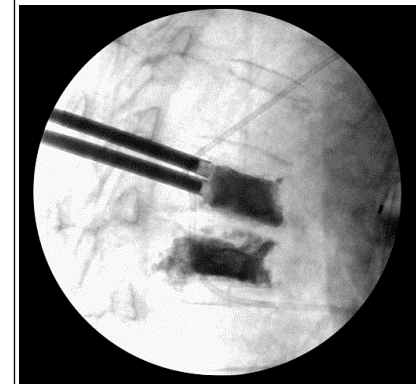
Lateral X ray of the Thoracic Spine depicting a collapsed vertebral body

Figure 2



Lateral X ray depicting placement of kyphoplasty balloons

Figure 3



Lateral X ray of the thoracic spine depicting excellent restoration of vertebral body height after kyphoplasty