Summary

A decreased lumbar lordosis and long fusions with osteotomies are risk factors for subsidence. Subsidence may occur more frequently in patients with degenerative lumbar disease. Age, BMI, and comorbidity were not associated. Subsidence does not affect clinical outcomes.

Hypothesis

Sagittal plane abnormalities and advanced age are risk factors for expandable cage subsidence in TLIF

Design

Prospective clinical and radiographic outcomes series from consecutive cohort at one center with minimum 2 year follow-up

Introduction

Risk factors for expandable cage (EC) subsidence have not been studied. Previous small series suggested suboptimal lumbar lordosis might be a risk factor for expandable cage subsidence

Methods

Prospective data from consecutive adults undergoing posterior fusion and TLIF using EC over 5 years were divided: No subsidence vs cage subsidence >2mm. The subsidence group was further subdivided: 2-3mm settling into the endplate (minor subsidence) vs ? 4 mm subsidence

(major subsidence). Clinical data was prospectively assessed preop, at 1 year and 2 years. Potential risk factors were evaluated for association with cage subsidence.

Results

40/177 (22.5%) of patients experienced cage subsidence (mean subsidence 4.02 mm sd = 2.21), 12/40 of these were severe (? 4 mm subsidence). Mean age was 64.1 sd = 11.9 (not subsided) vs 67.1 sd = 9.7 (subsided). Subsidence occurred more commonly in females (70.0% vs 53.0%; p = 0.08). Mean BMI was 29.3 (not subsided) vs 29.6 (subsided). Mean CCI was 0.96 sd = 1.16 (not subsided) vs 0.95 sd = 1.13 (subsided). Increasing age, BMI, and comorbidity burden were not associated with increased rates of subsidence. Subsidence was more common in degenerative conditions (62.5% vs to 37.5%; p