Patterns of Allograft Subsidence after Anterior Cervical Discectomy and Fusion

Dario Muzevic, Kenan I. Arnautovic, Bruno Splavski, Frederick A. Boop
Nothing to disclose
Introduction

• We investigated bone allograft subsidence after anterior cervical discectomy and fusion (ACDF), to assess its frequency, magnitude, timeframe and influence to treatment outcome.
Methods

- We reviewed data from 107 allografts in 56 patients in whom ACDF with cortical and cortical-cancellous allograft was performed.
- Measurement of distance between vertebral screw tips was performed using image processing software at baseline, 3, 6 and 9 months postoperatively.
Results

- Graft subsidence was observed in nearly all (96.2 %) allografts. The mean overall graft subsidence was 7.12 %
Results

- The highest degree of subsidence occurred during the first trimester after implantation, and most significant in caudal grafts in multi-level constructs.
Results

• Treatment outcome was not related to the amount of graft subsidence
Summary Points

• Minimal allograft subsidence is commonly observed during the first three months in patients following ACDF

• Its clinical significance is unclear, since this phenomenon appears unrelated to final treatment outcome

• The osseous allograft presents an excellent and relatively inexpensive choice for ACDF procedures