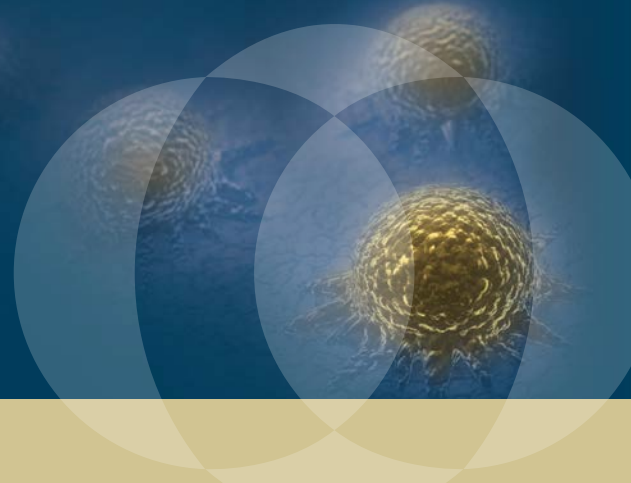


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Clinical Review

Characteristics And Rate Of Subsequent Lumbar Spine Fusion Surgery Among Patients Treated With Allogenic Cellular Bone Matrix For Posterior Lumbar Spinal Fusion

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OBJECTIVES

Published literature indicates that posterior lumbar spinal fusion (PSF) is associated with a mean 3.4-day hospital length of stay (LOS) and as high as a 6% rate of subsequent lumbar spine fusion (SLSF) within 12 months. Allograft material, such as ViviGen[®] Cellular Bone Matrix (CBM), combines osteoconductive, osteoinductive and osteogenic properties and may be used during spinal procedures to promote arthrodesis. This study evaluated patient characteristics, LOS and incidence of SLSF among PSF patients treated with ViviGen CBM.

METHODS

We queried the Premier Healthcare Database[®] (2013-2016) using ICD-9/10 codes to identify patients who received 1-2 level posterior lumbar fusion with a concurrent hospital charge for ViviGen CBM (LifeNet Health[®], Virginia Beach, VA). Patients' demographics, clinical characteristics, and procedural details were collected and analyzed. Hospital LOS for the index hospitalization and the incidence of SLSF within one year of index surgery were evaluated. The evaluation of SLSF included only those patients from hospitals that continuously contributed data to the database for at least one year after index PSF.

RESULTS

This study included 685 patients with a mean (SD) age of 61.5 (12.0) years. The majority of patients were female (59.0%). Medicare was the predominant payer (52.7%) followed by commercial insurance (32.4%). Common comorbidities included hypertension (61.9%), diabetes (22.3%), depression (20.3%) and obesity (17.3%). Mean (SD) LOS was 2.8 (1.8) days. Among the 178 patients with one year follow-up hospital data after index fusion, 1.7% (95% CI: 0.3%-4.8%) had a SLSF within one year.

CONCLUSIONS

This study provides initial real-world insights into the patient population and one-year outcomes for patients who received ViviGen during PSF. Future research with greater statistical power as well as direct comparative data will further our understanding of the value of ViviGen CBM.

