A Mineralized Allograft in Lumbar Interbody Fusion – A Retrospective Chart Review Study

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Background: Lumbar interbody fusion is a routine surgical intervention for treatment of degenerative disc disease to treat lumbar stenosis. Minimally invasive surgical approaches do not afford the opportunity to harvest large amounts of local bone autograft, therefore iliac crest autograft and or additional allograft material is strongly relied upon to achieve an arthrodesis. This study uses a blend of a blend of Ventris Medical's osteoinductive allograft; Allocell® and SurGenTec's nanoputty OsteoFlo® as an effective autograft extension material.

Methods: A retrospective chart review was performed on patients that underwent lumbar interbody fusion between October 2021 and January 2022. Demographic information was recorded, three- and six-month follow-up radiographs were assessed, and arthrodesis was graded using the Bridwell Anterior Grading System.

Results: A total of 18 patients were included in the study, representing 27 lumbar level fusions. A Bridwell grade of I (successful fusion) was achieved at three months in 11.1% of cases and at six months in 85.2% of cases. Four fusions remained a Bridwell grade of II at six months and were subsequently evaluated for complete arthrodesis. No patients received a Bridwell grade of IV (lucency with collapse of graft) at three- or six-month follow-up.

Conclusions: The combination of OsteoFlo® and Allocell® contributed to successful arthrodesis status post lumbar fusion.

Keywords: anterior lumbar interbody fusion (ALIF); transforaminal lumbar interbody fusion (TLIF); allograft, Allocell®, OsteoFlo®, cortical fiber, nanoputty, arthrodesis