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CASE REPORT

Use of Human Amniotic Tissue Allograft* in a Lumbar Decompression and Excision Procedure

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INTRODUCTION

Failed back surgery syndrome (FBSS) is a significant complication of lumbar disc surgery. Epidural fibrosis is one of the major causes of FBSS. Post-operative epidural adhesions and fibrosis after surgery for lumbar disc herniation are a consequence of normal wound healing; however, the presence of fibrosis renders repeat operations risky, and in some patients, fibrosis may lead to nerve root tethering. One approach to minimizing the risk of developing epidural adhesions is to provide a barrier between the dural membrane and the healing connective tissues.

MEDICAL HISTORY

A 25 year old female patient presented with lower back pain and left lower extremity pain, numbness, tingling and weakness. An MRI revealed a large disc herniation at L5-S1 causing left thecal sac deformity and impingement on the left S1 nerve root. The patient was diagnosed with a lumbar herniated disc and lumbar spinal stenosis. After having no improvement with chiropractic care, anti-inflammatory agents, medications and rest, the patient was given several options including epidural injections and operative intervention. After considering the pros and cons, the patient opted to proceed with the minimally invasive microdiscectomy at L5-S1.

CLINICAL TREATMENT PROTOCOL

On February 22, 2012, the patient underwent a lumbar decompression with excision of herniated disc, S1 and lumbar decompression, L5. After the decompression was found to be satisfactory and prior to removal of the tubular retractor, a BioDFence allograft was placed over the exposed dura in order to protect against future epidural fibrosis.

POST-OPERATIVE CLINICAL OBSERVATIONS

The patient presented on March 20, 2012, to the clinic for evaluation of post-op back symptoms. The patient was recovering as anticipated and had felt better with regard to symptoms until she packed and moved some belongings. She reported that after moving items, she started feeling her pre-op symptoms again, such as aching, numbness and tingling. Initial therapy included injections, pain and anti-inflammatory medications, physical therapy and stretching. An MRI was performed, and the report noted a persistent large disc extrusion posteriorly in the midline at L5-S1 extending somewhat caudal to the disc space. The findings also included a disc space narrowing indicating disc degeneration at L5-S1 with mild bony hypertrophic changes present along disc margins at that level. Based on the MRI findings and signs/symptoms, the patient was advised of the option of a repeat surgery for lumbar decompression at L5-S1. A lumbar decompression and discectomy L5 left, a repeat decompression S1 left and a left transforaminal epidural injection L4 was performed on April 18, 2012. Of note was the intact BioDFence allograft placed in the previous surgery that, in the opinion of the surgeon, had prevented significant epidural fibrosis. An additional BioDFence allograft was placed over the exposed dura, L5-S1 on the left side to prevent future epidural fibrosis.

CONCLUSION

The use of the BioDFence resorbable protective barrier in this case significantly reduced epidural fibrosis formation and adherence to the underlying dura in this patient.

*The patient was treated with an amniotic tissue allograft manufactured by BioD, LLC that was identical to BioDFence. For ease of reference, the product will be referred to in this case study as BioDFence.

About Dr. Grubb

A board-certified orthopedic surgeon, Dr. Grubb earned his medical degree from Ohio State University. He completed his residency at the Mayo Clinic and a fellowship at Johns Hopkins University.

Dr. Grubb specializes in minimally invasive spine surgery and has contributed to multiple spine journal articles and books. He presents his work at national meetings and is involved in research and innovation of several minimally invasive techniques and tools.

BioDFence is regulated by the FDA under 21 CFR Part 1271 and Section 361 of the Public Health Service Act.

BioDFence is intended for homologous use.

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