

Patient Experience with ViviGen® Cellular Bone Matrix in a Stand-Alone Multilevel Anterior Cervical Discectomy and Fusion

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Introduction

A 55 year-old extremely pleasant teacher with a medical history of migraines and obstructive sleep apnea presented to our clinic with complaints of neck pain and progressive gait instability. The patient rated his neck pain as 3/10. The patient explained that his gait had rapidly deteriorated during the last several months and he had multiple falls. The patient denied any issues with his bowel or bladder function. On neurological examination, the patient had right finger intrinsic muscle weakness (4/5), had an unsteady gait, and bilaterally positive Babinski reflexes. The patient underwent a preoperative CT and MRI of the cervical spine (Figure 1). The MRI revealed multilevel cervical spinal stenosis with severe spinal stenosis from C4 to C7. A CT scan confirmed ossification of the posterior longitudinal ligament, in particular, at C5 and C6. Given the patient's rapid deterioration, a surgical intervention was recommended in order to prevent permanent neurological damage.

Figure 1

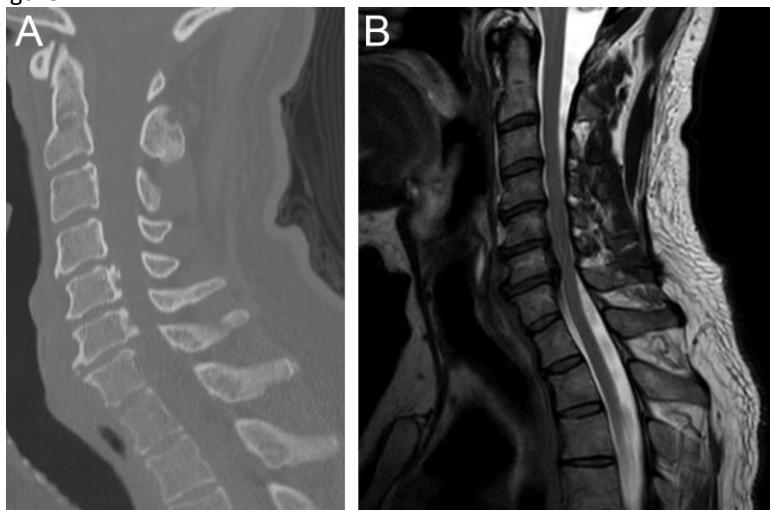


Figure 1. Preoperative sagittal CT scan reveals ossification of the posterior longitudinal ligament at C5 and C6 (A). A sagittal T2 weighted MRI depicts severe spinal stenosis from C4-C7 with T2 signal changes of the spinal cord (B).

Surgical procedure

The patient underwent a 3-level, C4-C7 anterior cervical discectomy and fusion (ACDF). Given the extensive osteophytes with severe spinal cord compression, the patient required partial corpectomies of C5 and C6. The posterior aspects of the vertebral bodies were resected using up-angled curettes followed by 90 degree-angled curettes. VG1® Cervical Allograft cages were packed with ViviGen® Cellular Bone Matrix and applied as interbody grafts. The construct was stabilized with SKYLINE® Anterior Cervical Plate spanning from C4-C7. The patient tolerated the procedure well and was discharged home on postoperative day #2.

Clinical Outcome

The patient recuperated well and his upper extremity weakness and gait instability resolved postoperatively. The patient's neurological exam normalized. The patient returned to work. A one-year follow-up CT scan confirmed successful fusion of the C4-C7 arthrodesis construct (Figure 2).

Figure 2



Figure 2. A sagittal CT scan of the cervical spine reveals radiographic fusion of the C4-7 arthrodesis construct.

About ViviGen Cellular Bone Matrix

ViviGen comprises cryopreserved live, viable bone cells within a corticocancellous bone matrix and demineralized bone. ViviGen is processed from donated human tissue and is intended for repair, replacement, or reconstruction of musculoskeletal defects. ViviGen contains viable cells that are committed to produce bone in concert with the osteoconductive scaffold and osteoinductive signals naturally found within the demineralized bone¹.

¹ Data on file LifeNet Health: DHF 12-008
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