Accepted Manuscript

Minimally Invasive Combined Direct Lateral and Posterior Transpedicular Approach for 360^{o} Resection of a Lumbar Aneurysmal Bone Cyst with Spinal Stabilization

Lee A. Tan, M.D., Manish K. Kasliwal, M.D., M.Ch, John E. O'Toole, M.D., M.S.

PII: S1529-9430(15)00553-7

DOI: 10.1016/j.spinee.2015.05.031

Reference: SPINEE 56353

To appear in: *The Spine Journal*

Received Date: 23 April 2015

Revised Date: 6 May 2015

Accepted Date: 20 May 2015

Please cite this article as: Tan LA, Kasliwal MK, O'Toole JE, Minimally Invasive Combined Direct Lateral and Posterior Transpedicular Approach for 360^{o} Resection of a Lumbar Aneurysmal Bone Cyst with Spinal Stabilization, *The Spine Journal* (2015), doi: 10.1016/j.spinee.2015.05.031.

Minimally Invasive Combined Direct Lateral and Posterior Transpedicular Approach for 360° Resection of a Lumbar Aneurysmal Bone Cyst with Spinal Stabilization

Authors:

Lee A. Tan, M.D.
Manish K. Kasliwal, M.D., M.Ch
John E. O'Toole, M.D., M.S.

Department of Neurosurgery
Rush University Medical Center,
Chicago, IL, USA

Corresponding Author:

Lee A. Tan, M.D.

1725 W. Harrison St. #855
Chicago, IL, USA 60612
Phone: 312-942-6644
Fax: 312-942-5549
Email: lee_tan@rush.edu

Funding/Conflict of Interest:

No funding was received in support of this work.
Dr. Tan and Dr. Kasliwal have nothing to disclose.
Dr. O'Toole receives royalties from Globus Medical and Pioneer Surgical; he also receives consulting fees from the FDA, Globus Medical, Pioneer Surgical and Nexxt Spine.

IMAGES IN SPINAL CARE

Minimally Invasive Combined Direct Lateral and Posterior Transpedicular Approach for 360° Resection of a Lumbar Aneurysmal Bone Cyst with Spinal Stabilization

A 23-year-old female presented with intractable and progressive low back pain for 6 months despite conservative management. Her physical examination was unremarkable. Magnetic resonance imaging (MRI) of lumbar spine revealed a large expansile lytic lesion with fluid-fluid levels (Figure 1) in the L4 vertebral body consistent with an aneurysmal bone cyst (ABC). Computed tomography (CT) demonstrated an expansile osteolytic mass with a thin rim of sclerosis (Figure 2A, 2B). CT-guide biopsy confirmed the diagnosis of ABC. Given her persistent symptoms and failed course of conservative management, a minimally invasive combined direct lateral and posterior transpedicular approach was used to achieve 360 degree, complete resection of the lesion along with spinal stabilization. She had immediate and dramatic improvement in her back pain post-operatively. She demonstrated no deficits in left thigh sensory or motor function. Post-operative x-rays showed proper placement of hardware (Figure 2C &D). Patient remained clinically well at 2-year follow-up with minimal back pain (VAS 1/10) with return to full time school and work.

Figure Legends:

Figure 1: Pre-operative MRI demonstrating the characteristic “fluid-fluid levels” of ABCs.

Figure 2: Pre-operative CT demonstrating destruction of L4 vertebral body (A&B); post-operative x-rays demonstrating completion of partial corpectomy, insertion of expandable cage, and placement of posterior percutaneous screws for stabilization.