

average hospital stay was 2.6 and 3.3 days. The patients ambulated within 24 hours in all but two cases. The patients reported pain improvements on the ten-point pain scale from 8.3 to 3.7 ($p < 0.001$) and on the ODI from 53% to 32%. Cobb angles decreased from 16° to 9.3° ($p < 0.001$), amounting to 2.5° of correction per level of surgery. Detailed imaging was reviewed by independent radiologists for 24 cases and 100% interbody fusion was achieved along with 71% right posterolateral and 74% left posterolateral fusion. There were three cases of mild nerve irritation/neuropraxia and no infections.

Conclusions OLLIF is a safe and effective MIS technique to correct adult degenerative scoliosis. Unlike alternative procedures, OLLIF is technically less complex than comparable procedures and can safely be used from the thoracolumbar junction to S1.

Disclosures H. Abbasi: None.

E-145 MINIMALLY INVASIVE SCOLIOSIS SURGERY WITH TRANS-KAMBIN POSTERIOR OBLIQUE LATERAL LUMBAR INTERBODY FUSION: SINGLE SURGEON FEASIBILITY STUDY

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Objectives Between 1998 and 2008 the number of spinal fusions in the U.S. increased 2.4 fold and the cost per fusion increased 3.3 fold, leading to a 7.9 fold increase in the cost burden of spinal fusions to the U.S. health care system. OLLIF is a new minimally invasive procedure for fusions of the Lumbar spine that can be employed safely and effectively from T12-L1 to L5- S1. OLLIF approaches the disk space through Kambin's triangle. OLLIF does not require direct visualization but instead relies on bilateral fluoroscopic imaging and electrophysiological monitoring. OLLIF reduces surgery times and hospital stay compared to TLIF. The purpose of this study is to evaluate the preoperative cost of OLLIF compared to TLIF.

Materials and Methods The study population are 69 OLLIF patients and 58 open TLIF controls. All patients underwent full course of conservative therapy. Indications were Degenerative Disk Disease, Disk Herniation, Listhesis, Stenosis (except Osteogenic Stenosis). This is a retrospective cohort study. All surgeries were single surgeon procedures and all TLIF cases were completed before the surgeon started performing OLLIF. We recorded surgery time, length of stay and infection rates. Perioperative outcomes were monetized by using a multiplier approach. OR Time was monetized at \$ 83.51/minute and hospital stay at \$ 2197/day. Infection rate was monetized relative to a 2.4% infection rate for open procedures.

Results OLLIF cuts surgery times and hospital stay in half relative to TLIF (59/132 min, 4.7/2.3 days respectively). When these differences are monetized, OLLIF reduces the average cost per surgery relative to TLIF by \$11,834 per surgery, with higher cost reductions for multi-level procedures. In over 500 OLLIF procedures to date, there have been no deep infections requiring drainage and only a single superficial infection (0.2%). We estimate that the reduction in infections saves an additional \$316 per surgery, for a total cost reduction of \$12,150.

Discussion In 2008, there were 207,495 lumbar fusions in the U.S. [1]. By saving \$12,150 per surgery relative to the current standard of care, OLLIF could reduce U.S. healthcare expenditures by over \$2.5bn. We are currently conducting a detailed study of the costs of OLLIF relative to TLIF. This study will include direct health care costs such as provider visits, injections, diagnostic tests, medication, and devices, as well as indirect health costs and productivity losses due to disability.

Conclusions OLLIF is a new MIS spinal fusion that reduces perioperative costs relative to open surgery and could potentially reduce U.S. healthcare expenditures by \$2.5bn per year, through the preoperative cost savings alone. A comprehensive cost analysis is under way.

Disclosures H. Abbasi: None.

E-146 MINIMALLY INVASIVE DIRECT LATERAL INTERBODY FUSION (MIS-DLIF): PROOF OF CONCEPT AND PERIOPERATIVE RESULTS

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Background Minimally invasive direct lateral interbody fusion (MIS-DLIF) is a novel approach for fusions of the lumbar spine. In this proof of concept study, we describe the surgical technique and report our experience and the perioperative outcomes of the first nine patients who underwent this procedure.

Study Design/Setting In this study we establish the safety and efficacy of this approach. MIS-DLIF was performed on 15 spinal levels in nine patients who failed to respond to conservative therapy for the treatment of a re-herniated disk, spondylolisthesis, or other severe disk disease of the lumbar spine.

Outcome Measures We recorded surgery time, blood loss, fluoroscopy time, patient-reported pain, and complications.

Methods Throughout the MIS-DLIF procedure, the surgeon is aided by biplanar fluoroscopic imaging to place an interbody graft or cage into the disc space through the interpleural space. A discectomy is performed in the same minimally invasive fashion. The procedure is usually completed with posterior pedicle screw fixation.

Results MIS-DLIF took 44/85 minutes, on average, for 1/2 levels, with 54/112 ml of blood loss, and 0.3/1.7 days of hospital stay. Four of nine patients did not require overnight hospitalization and were discharged two to four hours after surgery. We did not encounter any clinically significant complications. At more than ninety days post surgery, the patients reported a statistically significant reduction of 4.5 points on a 10-point sliding pain scale.

Conclusions MIS-DLIF with pedicle screw fixation is a safe and clinically effective procedure for fusions of the lumbar spine. The procedure overcomes many of the limitations of the current minimally invasive approaches to the lumbar spine and is technically straightforward. MIS-DLIF has the potential to improve patient outcomes and reduce costs relative to the current standard of care and therefore warrants further investigation. We are currently expanding this study to a larger cohort and documenting long-term outcome data.

Disclosures H. Abbasi: None.