



Case Report

**Acute Renal Infarction After Lateral Lumbar Interbody Spinal Fusion
for Kyphoscoliosis****Sanjeev J. Suratwala, MD, FAAOS, FACS^{a,*}, MaryAnne Cronin, MS, PharmD, BCPS^b,
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Abstract**Study Design:** Case report.**Objectives:** Case report of acute renal infarction following lateral interbody fusion with posterior instrumentation for adult lumbar kyphoscoliosis.**Summary of Background Data:** This is the first reported renal infarction following minimally invasive lateral interbody fusion and posterior spinal instrumentation.**Methods:** We report a case of acute renal infarction in a 72-year-old woman following direct lateral interbody fusion (DLIF) with percutaneous pedicle screw and rod fixation from L1 to L5 for correction of kyphoscoliosis. She reported vague abdominal pain on postoperative day (POD) 7. Abdominal ultrasound findings revealed no abnormalities. The patient tolerated a regular diet, improved in rehabilitative modalities, and had stable vital signs. Abdominal computed tomographic (CT) scan on POD 9 for persistent abdominal pain revealed right renal infarction and right renal artery occlusion. The patient was transferred to the ICU for evaluation, where intravenous heparin was administered and no reperfusion was performed. Transesophageal echocardiography on POD 14 revealed moderate diffuse plaque in the descending aorta.**Results:** Surgical correction of kyphoscoliosis through DLIF and posterior spinal instrumentation was performed with improvement of deformity. Subsequent acute renal infarction was noted. The patient was discharged home on POD 21. There were no further adverse events up to the 1-year follow-up.**Conclusions:** A lateral approach to the anterior lumbar spine may precipitate renal artery occlusion and renal infarction in patients with atherosclerosis. Diagnosis of renal infarction requires a high index of suspicion because the primary complaint may be vague back, flank, and abdominal pain. We emphasize the importance of recognizing potential symptoms early to prevent additional renal injury. Caution should be taken with deformities around the origin of the renal arteries and great vessels, especially in patients with atherosclerosis.**Level of Evidence:** Level IV.

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Keywords: Renal infarct; Lateral interbody fusion; Kyphoscoliosis; Complications

Introduction

A minimally invasive percutaneous lateral approach to the anterior lumbar spine appeals to both surgeons and patients. Studies have shown lower incidence of infection and transfusion with shorter intraoperative and recovery times compared to traditional procedures [1]. Complications include transient radicular pain and muscle weakness. We report a case of acute renal infarction following direct lateral interbody fusion (DLIF).

Author disclosures: SJS (none); MC (none); KK (none); Vincent Leone (has a patent for an Anterior Inter-body Cage issued).

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Materials and Methods

A 72-year-old woman with a 3-year history of lower back and left leg pain presented with lumbar scoliosis and stenosis. Her past medical history was significant for hypertension and hyperlipidemia. Physical examination revealed notable thoracolumbar kyphoscoliosis, slight coronal imbalance to the left, and no significant sagittal imbalance (Figs. 1–4). The patient failed to improve with physical therapy and epidural steroid injections, and elective surgery was scheduled. Discectomy and anterior arthrodesis via left-sided lateral approach along the concavity of the curve followed by percutaneous posterior L1–L5 instrumentation with pedicle screws and rod fixation were performed on the same day. The operative time was 240 minutes and estimated blood loss was 150 mL. The deformity was approached through the concavity to maximize the number of levels approached through a single, smaller incision. Our usual practice has been to approach the deformity through the convexity of the curve. No intraoperative neuromonitoring or hemodynamic abnormalities were noted. Standard intraoperative and postoperative thromboprophylaxis was administered with an intermittent pneumatic compression device.

Transient postoperative hypotension was corrected with fluid bolus administration in the recovery room. Postoperative mental status changes on postoperative day (POD) 1 resolved with naloxone. On POD 7, while performing inpatient rehabilitation (in a separate wing of the

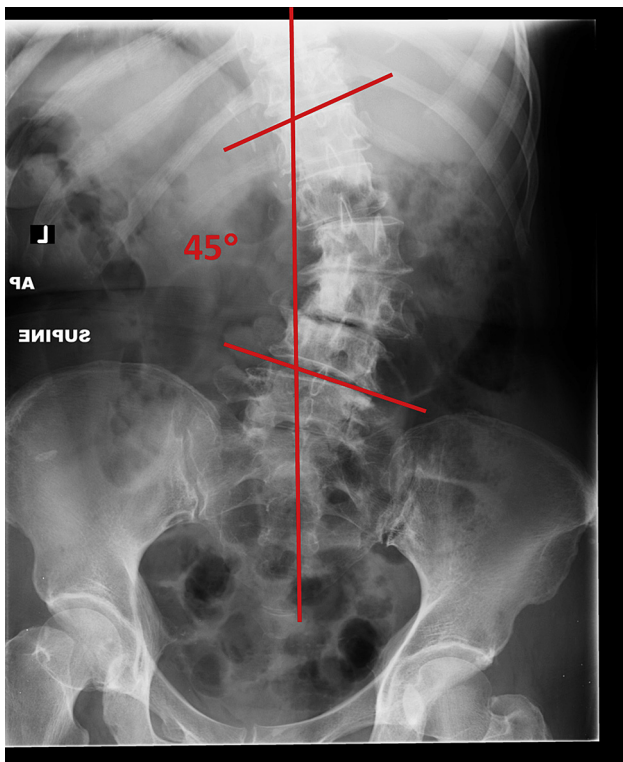


Fig. 1. Preoperative supine AP X-ray of lumbar spine demonstrating 45° right-sided scoliosis from T12–L4.

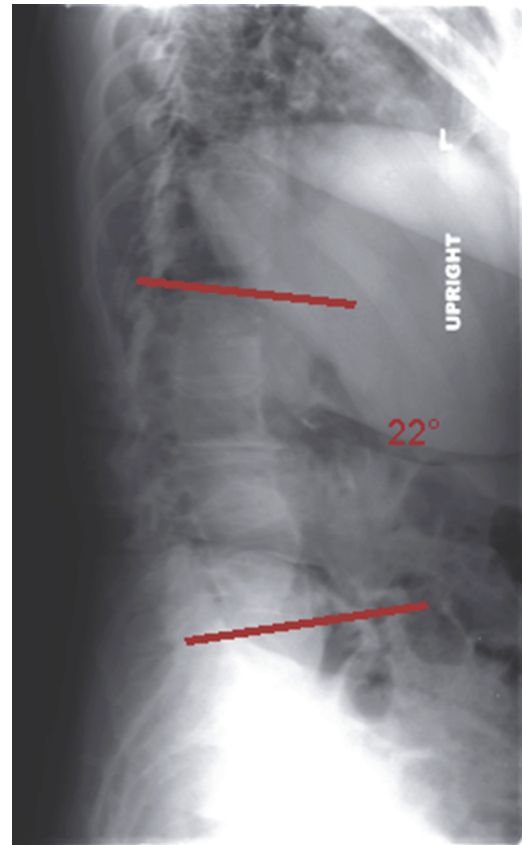


Fig. 2. Preoperative upright lateral X-ray of lumbar spine demonstrating 22° kyphosis from L1–4.

hospital), the patient reported vague abdominal pain. After a negative abdominal ultrasound, computed tomographic (CT) scan with PO and IV contrast on POD 9 revealed right



Fig. 3. Preoperative coronal T2 MRI of lumbar spine showing normal appearance of the kidneys.

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