Minimally Invasive Treatment of Adjacent Segment Degeneration via XLIF
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Introduction: The XLIF approach provides a minimally disruptive alternative to anterior column access that allows for large graft placement, disk height restoration, and indirect decompression, while avoiding posterior scar tissue from the previous procedure. Results of ASD treated with XLIF are presented.

Methods: Of our single-site consecutive series of 950 XLIF patients, 276 were treated for ASD. Clinical and radiographic measures were prospectively collected and evaluated.

Results: Age ranged from 29-91 years (average 61.6 years). 90.6% had one or more comorbidity. 144 patients (52%) were obese or morbidly obese. All but one case included supplemental fixation: 47% unilateral pedicle screws, 4% bilateral pedicle screws, 12% lateral embroidered plate, and 43% laterally tabbed interbody implant. In 15 cases with prior posterior instrumentation, the pre-existing rods were removed unilaterally and revised on that side; in all other cases with prior instrumentation, adjunctive lateral fixation was used. Hospital stay averaged 1.3 days, with 2 blood transfusions and one wound infection. Complications included intraoperative hardware failure (4, revised during same procedure with no incident), ileus (5), gallstone pancreatitis (1), urinary retention (3), kidney stone (1), peritoneal catheter occlusion (1), pulmonary embolism (1), subcutaneous hematoma (1), delirium (1), atrial fibrillation (3), MI at 6 weeks post-op (1), compression fracture at an adjacent level (5), sacral fracture (1), and postoperative quadriceps weakness (1, resolved within 4 weeks of surgery). Average VAS scores improved by 4.6 points from pre-op to 12 months. Average disk height improved from 6.4 to 10.6 at post-op, settling to 8.7mm at 24 mos; slip from 3.5 to 0.6mm. Definitive signs of fusion (Lenke 1-2) were present in 74% at 3 months, 91% at 6 months, 96% at 12 months and 95% at 24 months.

Conclusions: Our experience using XLIF in the ASD population has shown that clinical and radiographic indicators improve commensurately and the overall outcome is encouraging.