Two-year Clinical Outcomes in 119 Patients Treated with a Mini-open, 90° Lateral, Retroperitoneal, Trans-psoas Approach for Lumbar Spine Discectomy and Fusion

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Background: Interbody fusion is an effective treatment for degenerative conditions in the lumbar spine, though traditional anterior and posterior approaches are associated with significant soft tissue disruption and morbidity that decreases the value of the intervention. Advancements in neuromonitoring techniques over the past decade have allowed for the lumbar spine to be accessed through a lateral, mini-open, retroperitoneal, transpsoas approach without neural injury. Long term outcomes of the approach, however, are few.

Objective: To report on a long-term outcomes in using extreme lateral interbody fusion (XLIF®, NuVasive, Inc. San Diego, CA).

Methods: This work reports outcome measures (disability, pain, satisfaction) and fusion status at 24-months for 119 patients treated with XLIF between 2006 and 2008 by a single neurosurgeon. Data was collected through a prospective registry.

Results: Significant decreases in mean disability and overall, lower back, and radicular symptoms were seen at all time points postoperatively (all, p < 0.001). Narcotic medication use decreased significantly from 67.2% preoperative to 34.8% postoperative (p < 0.01). Patient-reported satisfaction was 83.2% overall, 87.0% on relief of pain, and 95% of patients would undergo the surgery again if their outcome was known preoperatively. 87% of patients showed solid fusion at 24-months. XLIF-specific complications included one intra-operative anterior longitudinal ligament rupture, once case of ileus, and two dysesthesias which resolved by 12-months postoperative.
Conclusion: The XLIF procedure for interbody fusion, in this series, performed comparably at 24-months postoperative on reported complications, outcomes, satisfaction, and fusion as conventional approaches, with shorter mean operative time and less blood loss.