Clinical and Functional Results of the Treatment of Degenerative and Extruded Lumbar Disc through a Minimally Invasive Lateral Approach. Is Minimally Invasive Posterior Tubular Discectomy Necessary for Radiculopathy Relief?

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Background context: Degenerative disc disease is often accompanied by a symptomatic herniated disc at the same level making decisions about which surgical option is best for the patients to achieve clinical outcomes more challenging. The purpose of this study was to assess the benefits of combining two different minimally invasive techniques in the treatment of lumbar disc disease associated with an extruded disc: micro-endoscopic discectomy (MED) and XLIF.

Purpose: The purpose of this abstract is to present an alternative to improve clinical and radiological results for lumbar fusion using XLIF standalone in combination with endoscopic decompression.

Study design/setting: Prospective clinical study.

Patient sample: 16 patients

Outcome measures: Visual analog pain score (VAS) and Oswestry disability index (ODI) were evaluated preoperatively and at various time-points postoperatively. VAS assessments was made on back pain and leg pain. Radiological outcomes were measured with plain radiographs. Follow up extended to 3, 6, 12 and 18 months.

Methods: 16 patients underwent micro-endoscopic disectomy (MED) and XLIF for the treatment of symptomatic low back and/or leg pain or dysfunction. Endoscopic decompression was achieved using the Metrix© Endoscopic System and the interbody graft used in the XLIF procedure was a PEEK interbody implant filled with DBM in a lipid carrier mixed with hydroxyapatite and tri-calcium phosphate granules.

Results: 16 patients with symptomatic two-level lumbar disc disease were included. Mean patient age was 47 yrs (range: 24-68 yrs). All patients had a two-level disease: L4-L5 and L5-S1. Mean combined operative time was 145 minutes and in all cases measured blood loss was less than 40 cc. Patients were typically out of bed, ambulating and advanced to regular diet on the day of surgery, and discharged home the following 24 to 48 hours. Mean back pain VAS decreased from 7 at pre-op to 2.3 at 3 months, 2.8 at 6 months, and 2.3 at 187 months. Mean leg pain VAS was 8.3 at pre-op, 1.3 at 3 months, 1 at 6 months, and 0 at 18 months. Mean ODI improved from 69,1 at pre-op to 11.3 at 3 months, 10 at 6 months, and 9.8 at 18 months.

Conclusions: This study showed that the combination of XLIF and MED is an effective surgical treatment for lumbar disc disease associated with extrusion, demonstrated by clinical improvements. Postoperative recovery is notably faster than following traditional open procedures.