The Transforaminal Endoscopic Approach Is Effective for the Treatment of the Most Common Causes of Failed Back Surgery Syndrome (FBSS)

A.T. Yeung¹, Y. Zheng¹, C.A. Yeung¹, J. Field¹, C. Meredith¹, San Diego Spine Study Group
¹Desert Institute for Spine Care, Phoenix, AZ, United States

Background: Failed back surgery syndrome due to recurrent herniation and foraminal stenosis post-laminectomy/decompression is commonly seen in spine care. Although conventional surgery for recurrent HNP is nearly as successful as the index procedure, it is a challenge to both surgeon and patient to consider repeat surgery from the same surgical approach. When there is lateral stenosis and extraforaminal HNP, especially at L5-S1, many patients require decompression and fusion as a “salvage procedure”.

Study design: A Prospective collection of outcome data in patients with FBSS due to recurrent lumbar disc herniation and/or foraminal stenosis were reviewed and analyzed by an independent reviewer. All surgeries were by a transforaminal endoscopic approach for discectomy and foraminal decompression by 4 surgeons in a single spine group and in an outpatient setting.

Method: Prospective outcome data included Visual Analogue Scale (VAS), Oswestry Disability Index (ODI), and SF 12. The data was collected and recorded at the initial office visit, preoperative and postoperative visits, follow-up visits, and final follow up before discharge. A final clinical rating using modified MacNab criteria by the reviewer summarized the outcome. The surgical method chosen was a shared patient/surgeon decision. All procedures were performed at an ambulatory surgical center. All patients were discharged to home the same day. The average follow up period was, minimum 12 months, average 30 months. Levels involved were L2-3=6, L3-4=6, L4-5=14, L5-S1=11. 1 level=24 patients, 2 levels=5, and 3 levels=1. The endoscopic decompression technique combined foraminal "selective" discectomy with foraminoplasty, decompressing the lateral recess by ventral facet soft tissue and bone resection. Intra-operative chromo-discography outlined the foraminal disc protrusion/extrusion.

Results: In the 30 Cases of recurrent disc herniation and foraminal stenosis, the average pre-op VAS was 6.2, and ODI 43%. Endoscopic decompression provided Improvement of 4.4 and 33% respectively. “Complications” of the foraminal approach resulted in dysesthesia in 4 patients within the 2 week post-operative period. Dysesthesia resolved spontaneously in the 3 mild cases within 2 months with transforaminal epidural and sympathetic blocks. 1 case of moderate/severe dysesthesia took 4 months for significant improvement and eventual resolution. 3/30=10% were considered a clinical failure when additional surgery (fusion) was recommended when backpain in the post-operative period was unacceptable to the patient. 100% was satisfied with their initial decision to avoid “open” surgery, as most were otherwise candidates for decompression and fusion as the alternative for their FBSS.

Discussion: The transforaminal endoscopic approach is ideal for FBSS due to recurrent HNP and lateral stenosis. The approach should be considered as one alternative to fusion in FBSS due to recurrent HNP and lateral stenosis. Residual axial back pain from non-discogenic axial may need further work-up to consider dorsal endoscopic rhizotomy versus the standard decompression and fusion.

Conclusion: Endoscopic Transforaminal Decompression is a less invasive MIS technique that produces good results and does not “burn bridges” for a more conventional decompression/fusion approach. Endoscopic foraminal decompression will add to the surgical armamentarium of MIS surgery and the treatment of FBSS.