Comparison Of Microendoscopic Discectomy And Unilateral Biportal Endoscopy Spine Surgery For Treatment Of Lumbar Disc Herniation. A Cohort Study

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Background: The prevalence of lumbar disc herniation (LDH), which is dominated by the productive age population, is the main cause of limited activity. LDH is a condition of protrusion of the nucleus pulposus through the annulus fibrosus in the intervertebral disc that presses towards the spinal canal. Microendoscopic Discectomy (MED) and Unilateral Biportal Endoscopy (UBE) are some of the types of minimally invasive procedures for LDH management. This study was conducted to assess functional outcome as measured by Oswestry Disability Index (ODI) of LDH patients preoperatively, 1 day, 3 months, 6 months, and 12 months after both procedures, and describe a predictive factors from the outcomes of surgery with multivariate analysis.

Methods: This study was an observational analytic cohort method in 208 patients. 102 patients undergoing MED and 106 using UBE techniques. By analyzing the factors of demograhic characteristic, clinical characteristic, radiology characteristic, and outcomes operation with periodically ODI score.

Results: ODI questionnaire responses were not statistically different between the MED and UBE groups (102 vs 106 pts) after treatment. Incision length, blood loss, length of hospital stay, and postoperative incision pain were best in the UBE group, but intraoperative fluoroscopy was highest in the UBE group. On the other hand, ODI Preoperation, VAS Preoperation, Age, and BMI become predictive factors on the results of 12 months postoperative ODI in the MED group. From linear regression calculation, ODI 12-months postoperative formula = 22 + -1.5*(VAS preoperative) + 0.7*(ODI pre-operative) + -0.1*(age) + 0.8*(grading herniation)

Conclusion: For the treatment of LDH, both of UBE and MED can reach excellent results and no superiority was found between both of procedures with regard to 12 months postoperation ODI. But in the 1 day after procedures, UBE produced a better outcome to MED.