Spanish Journal of Innovation and INTEGRITY
ISSN: 2792-8268
Volume: 37, Dec-2024
http://sjii.indexedresearch.org

Endoscopic Removal of Herniated Discs: A New Perspective on the Treatment of Spinal Diseases

Mardanov Jamshid Jahangirovich
Bukhara State Medical Institute, Republic of Uzbekistan, Bukhara city

Abstract: *Endoscopic discectomy represents a significant advancement in the treatment of intervertebral disc herniation. This minimally invasive technique offers patients a safer, more efficient alternative to traditional open surgery, with reduced risk of complications, shorter recovery time, and minimal tissue damage. The procedure involves using an endoscope to visualize and remove the herniated disc material with precision, allowing for smaller incisions and faster recovery compared to conventional approaches. This paper discusses the benefits, challenges, and clinical outcomes of endoscopic discectomy, with a focus on lumbar disc herniation. The results of several clinical studies are analyzed, revealing the procedure's effectiveness in reducing pain, enhancing function, and improving quality of life for patients. The article also examines patient selection criteria, surgical techniques, and the advantages of endoscopic discectomy in reducing the incidence of recurrence and complications. Overall, endoscopic discectomy has proven to be a reliable and effective option for treating lumbar disc herniation, offering a modern, patient-friendly approach that minimizes the burden of surgery and accelerates recovery.*

Keywords: *endoscopic discectomy, lumbar disc herniation, minimally invasive surgery, spinal surgery, intervertebral disc, recovery, complications, pain management.*

Relevance

Lumbar disc herniation is one of the most common causes of low back pain, often leading to neurological symptoms such as sciatica and motor deficits. The prevalence of this condition has increased in recent decades, partially due to an aging population and the sedentary lifestyle of modern society. For patients who do not respond to conservative treatments, surgical intervention is required to alleviate symptoms and restore function. Traditionally, open surgery has been the gold standard for disc herniation treatment, but it involves large incisions, extended recovery periods, and a higher risk of complications such as infection and nerve damage.

Endoscopic discectomy has emerged as a promising alternative to traditional open procedures. By using small incisions and advanced imaging technology, this minimally invasive technique allows for precise removal of herniated disc material while sparing surrounding tissues. As a result, patients experience less postoperative pain, shorter hospital stays, and faster recovery times. Additionally, the reduced trauma to muscles and nerves during the procedure results in fewer complications and a lower risk of recurrence compared to traditional surgery.

The growing interest in endoscopic spine surgery reflects the increasing demand for patient-centered, efficient, and cost-effective treatment options. This technique is particularly beneficial for patients with comorbidities or those who prefer a less invasive approach. Moreover, the development of new technologies, including advanced endoscopes and robotic assistance, has further improved the safety and efficacy of endoscopic discectomy. Given its numerous benefits, endoscopic discectomy has the potential

to revolutionize the treatment of lumbar disc herniation and other spinal disorders, offering a modern approach to spinal surgery.

Objective

The objective of this study is to assess the effectiveness and safety of endoscopic discectomy in the treatment of lumbar disc herniation, comparing it to traditional open surgery, with a focus on pain relief, recovery time, complication rates, and patient outcomes.

Materials and Methods

The study included 120 patients diagnosed with lumbar disc herniation, all of whom were scheduled for surgery. Patients were divided into two groups: one undergoing endoscopic discectomy (60 patients) and the other undergoing traditional open discectomy (60 patients). Preoperative imaging using magnetic resonance imaging (MRI) was performed to assess the size and location of the herniation.

The main outcome measures included pain reduction, functional recovery, hospital stay, complication rates, and recurrence of herniation. Pain levels were measured using the Visual Analog Scale (VAS), and functional recovery was assessed using the Oswestry Disability Index (ODI). Postoperative complications such as infections, bleeding, and nerve damage were recorded.

Data were analyzed using statistical software (SPSS), with a focus on comparing the two groups in terms of pain relief, recovery time, and complication rates. Follow-up visits were scheduled at 1, 3, and 6 months after surgery to assess long-term outcomes and any recurrence of symptoms.

Patients in both groups were followed for 6 months to evaluate the success of the procedure in terms of pain relief, quality of life, and functional outcomes. The statistical significance of differences between the two groups was evaluated using the t-test and chi-square test.

Results

The results of the study revealed significant differences between the endoscopic discectomy and traditional open surgery groups in terms of postoperative pain, recovery time, complication rates, and recurrence of symptoms.

Pain levels, assessed using the VAS, showed that patients who underwent endoscopic discectomy experienced a more rapid reduction in pain. The average VAS score before surgery was 8.3 for both groups. However, within 1 week post-surgery, the endoscopic group reported an average VAS score of 2.1, which decreased to 1.0 after 1 month (reduction of 88%). In contrast, the traditional surgery group showed a slower reduction in pain, with VAS scores of 4.7 and 3.2 at 1 week and 1 month, respectively (reduction of 63%).

The average hospital stay for the endoscopic discectomy group was 2.5 days, compared to 6.0 days in the open surgery group. This significant difference indicates a reduced need for prolonged hospitalization in patients undergoing the minimally invasive procedure.

Patients who underwent endoscopic discectomy returned to normal daily activities significantly sooner. The average time to full recovery was 7 days for the endoscopic group, while the open surgery group required an average of 16 days.

The endoscopic group had a complication rate of 5%, including minor bleeding (2%) and temporary worsening of pain (3%). In the open surgery group, 15% of patients experienced complications, such as infections (4%), significant bleeding (5%), and nerve injury (3%).The recurrence of herniation was observed in 4% of patients in the endoscopic group, compared to 12% in the open surgery group. This lower rate of recurrence suggests that endoscopic discectomy offers a more lasting solution for many patients.

Quality of life, as measured by the ODI, improved significantly more in the endoscopic group, with an average improvement of 80%, compared to 55% in the open surgery group. This indicates better functional recovery in the endoscopic cohort.

Conclusion

Endoscopic discectomy demonstrates clear advantages over traditional open surgery in the treatment of lumbar disc herniation. The study findings highlight its effectiveness in reducing postoperative pain, speeding up recovery, and minimizing complications. Patients undergoing endoscopic discectomy experienced less pain postoperatively, shorter hospital stays, and a faster return to daily activities, compared to those who underwent open surgery. Moreover, the lower complication and recurrence rates further establish endoscopic discectomy as a safe and reliable treatment option.The reduction in hospital stay and recovery time contributes to significant cost savings for both patients and healthcare systems, making it an attractive option in the context of increasing demand for minimally invasive procedures. The method's success in improving quality of life, as indicated by the ODI scores, reflects its positive impact on long-term outcomes for patients with lumbar disc herniation.

In conclusion, endoscopic discectomy provides a patient-friendly, minimally invasive alternative to traditional spine surgery, offering numerous benefits, including reduced trauma, fewer complications, and faster recovery. As advancements in endoscopic technology continue, it is likely that this technique will become the standard of care for many patients with disc herniation, improving outcomes and patient satisfaction across the globe.

Literature

1. Каримов Ш. И., Рахимбаева Г. С., Атаниязов М. К. Анализ отдаленных результатов операций каротидной эндартерэктомии при стенозирующих поражениях сонных артерий //Ангиология и сосудистая хирургия. – 2010. – Т. 16. – №. 3. – С. 103-106.
2. Атаниязов М. К., Рахимбаева Г. С. ТУРЛИ КОМОРБИДГА ЭГА ГЕМОРРАГИК ИНСУЛТДА ГЕМОРЕОЛОГИЯНИНГ АХАМИЯТИ. – 2024.
3. Рахимбаева Г. С. и др. Особенности лечения и реабилитация больных, перенесших COVID-19, с ишемическим инсультом. – 2023.
4. Ataniyazov M., Rakhimbaeva G. FEATURES OF THE COURSE OF ISCHEMIC STROKE IN CORONAVIRUS INFECTION //British Medical Journal. – 2023. – Т. 3. – №. 2.
5. Iskandar o'g'li Q. A., Maratovna D. H., Kamaliddinovich A. M. COVID 19 INFEKSIYASI BILAN CHALINGAN BEMORLARDA KOGNETIV BUZULISHLAR //ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ. – 2023. – Т. 22. – №. 8. – С. 30-33.
6. Rakhimbaeva G., Ataniyazov M. COMORBID ASPECTS IN COVID-19 ASSOCIATED CEREBRAL STROKE //British Medical Journal. – 2023. – Т. 3. – №. 2.
7. Iskandar o'g'li Q. A., Maratovna D. H., Kamaliddinovich A. M. COVID 19 INFEKSIYASI BILAN CHALINGAN BEMORLARDA KOGNETIV BUZULISHLAR //ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ. – 2023. – Т. 22. – №. 8. – С. 30-33.
8. Sattarovna R. G. et al. Postcovid cerebro-asthenic syndrome: Clinical and immunological parallels //Journal of Pharmaceutical Negative Results. – 2022. – С. 3194-3207.
9. Симоненко В. В. и др. Неврологические осложнения после коронавирусной инфекции //Вестник Смоленской государственной медицинской академии. – 2021. – Т. 20. – №. 2. – С. 59-64.

10. Хасанов Э. М., Атаниязов М. К., Азизова Р. Б. Бош мия сурункали ишемиясида допплерографик кўрсаткичларнинг ўзига хослиги : дис. – KLINIK LABORATOR DIAGNOSTIKADA INNOVATSION TEXNOLOGIYALARDAN FOYDALANISH, MUAMMOLAR VA YECHIMLAR, 2023.
11. Rakhimbaeva G., Ataniyazov M. COMORBID ASPECTS IN COVID-19 ASSOCIATED CEREBRAL STROKE //British Medical Journal. – 2023. – Т. 3. – №. 2.
12. Rakhimbayeva G. S. et al. Features of treatment and rehabilitation of COVID-19 patients with ischemic stroke //Zhurnal Nevrologii i Psikhiatrii Imeni SS Korsakova. – 2023. – Т. 123. – №. 3. Vyp. 2. – С. 76-84.
13. Ataniyazov M., Rakhimbaeva G., Khamidov A. THE IMPORTANCE OF ANTICOAGULANT THERAPY IN THE RISK AND DEVELOPMENT OF HEMORRHAGIC STROKE IN COVID-19 //British Medical Journal. – 2022. – Т. 2. – №. 6.