Lumbar Foraminal Stenosis Is a Combined Pathology With Spinal Canal Stenosis, Leading to the Emergence of New Concepts in Spinal Endoscopic Approaches for Its Treatment

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Endoscopic spine surgery (ESS) has become the new paradigm of minimally invasive surgical techniques, with the advantages of minimized surgical trauma and innovative surgical approaches [1-6]. The surgeon’s eye at the tip of the endoscope can observe every corner of the spinal canal, and instruments can access everywhere that can be seen with the endoscopic camera [7,8]. The positioning of the skin entry is flexible because muscle retraction is unnecessary during ESS. These benefits enable the development of creative and groundbreaking surgical techniques.

Lumbar foraminal stenosis is a lumbar degenerative disease caused by facet joint hypertrophy and disc height narrowing. Foraminal stenosis is not a standalone condition but rather a combination of pathologies with lateral recess stenosis. Surgeons tend to choose the surgical approach based on the severity of stenosis and symptoms, whether it’s a transfornaminal or interlaminar endoscopic approach. Treating both pathologies within and outside the spinal canal is technically demanding without lumbar fusion. Untreated stenotic lesions can lead to persistent pain or early recurrence of symptoms, necessitating additional surgery or procedures to relieve the symptoms.

Therefore, a new concept of an endoscopic surgical approach is necessary to simultaneously treat the combined pathologies of foraminal and lateral recess stenosis. Interlaminar contralateral endoscopic lumbar foraminotomy has proven to be the ideal surgical approach to relieve lateral recess and foraminal-extraforaminal stenosis using a full endoscopic and biportal endoscopic system [9-11]. The endoscopy accesses the lumbar neuroforamen parallel to the exiting nerve root and decompresses the exiting nerve root from the lateral recess to the extraforaminal area. This technique has shown enhanced outcomes even at the L5–S1 level and in patients with lumbar spondylolisthesis.

In this new era of ESS, the Journal of Minimally Invasive Spine Surgery and Technique (JMISST) encourages surgeons to present challenging and unique endoscopic techniques, including full and biportal spine surgery [12,13]. Both methods have pros and cons and synergistically contribute to creating new approaches, significantly expanding their applications [14].
JMISSST has published advanced endoscopic techniques to address multifocal stenosis problems, including endoscopic lumbar interbody fusion [15,16] and decompression surgery through transfornaminal and interlaminar contralateral approaches [17,18]. However, there are still unresolved issues with lumbar foraminal stenosis in various cases. The development of new surgical methods may imply that the treatment for lumbar foraminal stenosis has not yet been established.

JMISSST has planned a special issue titled "Minimally Invasive Approach to Lumbar Foraminal Pathology" to provide an in-depth understanding of the complex pathologies of lumbar foraminal stenosis and play a pivotal role in selecting better surgical techniques. This issue discusses the definition of lumbar foraminal stenosis and various surgical approaches encompassing a wide range of combined diseases. By promoting a comprehensive understanding of the complex pathologies of foraminal stenosis and surgical techniques, we hope to provide valuable insights to surgeons and guide them in selecting ideal surgical approaches.

We are deeply grateful to the editorial team who passionately participated in this special issue.

NOTES

Conflicts of Interest

Ji Yeon Kim is an editorial member of Journal of Minimally Invasive Spine Surgery and Technique but was not involved in the peer reviewer selection, evaluation, or decision process of this article. There are no conflicts of interest to declare.

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https://doi.org/10.21182/jmisst.2023.01074