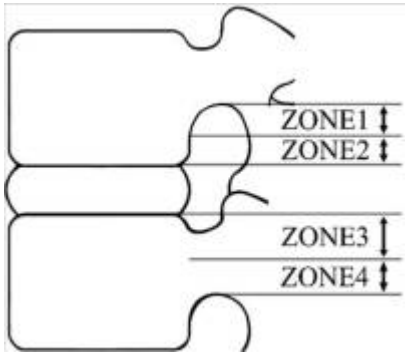
Migrated lumbar disc herniation



Zone 1 Far-upward From the inferior margin of upper pedicle to 3 mm below of the inferior margin of upper pedicle

Zone 2 Near-upward From 3 mm below of the inferior margin of upper pedicle to the inferior margin of upper vertebral body

Zone 3 Near-downward From the superior margin of lower vertebral body to the center of lower pedicle

Zone 4 Far-downward From the center to the inferior margin of lower pedicle.

Migrated discs are considered inaccessible by conventional Percutaneous Endoscopic Lumbar Discectomy (PELD) techniques because of rigid instrumentation, poor visualization, and the inability to reach and grasp herniated fragments. Occasionally, it is possible for conventional PELD to remove the whole migrated disc by grasping the tip of the disc fragment. However, this technique does not guarantee complete removal in high-grade disc migration. In caudally migrated discs, foraminal widening through removal of the superior part of facet is needed to expose the anterior epidural space [1)]. For cranially migrated discs, the working channel can directly access the target lesion in the epidural space without annulus penetration. Choi et al [2)] described a procedure in which the cannula was initially positioned at the lower part of the disc and gradually shifted upward. Percutaneous endoscopic technique for migrated disc is technically demanding and can be affected by the surgeon's experience. Yeung and Tsou [3)] suggested that 70° wide angle endoscope makes it possible to find hidden epidural migrated disc fragments. Choi et al [4)] introduced the MRI-equipped operative suite-assisted PELD for concerns about surgical failure, especially highly migrated disc. They could confirm complete decompression in the operating room immediately after PELD.

1)
Lee S, Kim SK, Lee SH, et al.. Percutaneous endoscopic lumbar discectomy for migrated disc herniation: classification of disc migration and surgical approaches. Eur Spine J. 2007;16(3):431–437.
2)
Choi G, Lee SH, Lokhande P, et al.. Percutaneous endoscopic approach for highly migrated intracanal disc herniations by foraminoplastic technique using rigid working channel endoscope. Spine (Phila Pa 1976). 2008;33(15):E508–E515.
3)
Yeung AT, Tsou PM. Posterolateralendoscopicexcision for lumbar disc herniation: surgical technique, outcome, and complications in 307 consecutive cases. Spine (Phila Pa 1976). 2002;27(7):722–731.
4)
Choi G, Modi HN, Prada N, et al.. Clinical results of XMR-assisted percutaneous transforaminal endoscopic lumbar discectomy. J Orthop Surg Res. 2013;8:14.