Transforaminal percutaneous endoscopic discectomy for foraminal upward migration at upper lumbar disc herniation: clinical and radiological outcome, and technical consideration

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Anatomical consideration of upper lumbar area

Narrow lamina

Relatively wide foramen
What’s your operation plan?

Risk of Conventional Microdiscectomy

- facetectomy, Retraction injury of caudal equina
Material and Methods

• Upper lumbar: L 1-2, 2-3, 3-4

• Foraminal upward migration of ruptured disc particles

• Full endoscopic approach

• Radiologic and Clinical outcomes
Material and Methods

Classification of migrated discs

Type A

Type B

Type C
Material and Methods

Approach trajectory of endoscope

Out and In technique
Results

• 25 patients (Mean age 51.1)
• Mean follow up periods: 18.5±6.3 months
• M/F: 16/9
• Upper lumbar: L 1-2 (3), 2-3 (11), 3-4 (11)
• Migration zone: Type A 13, B 6, C 6 (highly migrated disc)
Results

- PELD was Successfully performed in all enrolled 25 patients.
- Total removal of herniated disc particles 23 cases /
- Partial removal 2 cases (Very small remnant disc particle)
Case (47/M Left leg pain)

Pre-Operative MRI

Transforaminal Endoscopic approach

Post-Operative MRI
Complications related with surgical procedures

- Recurrence: Only 1 case, needed open discectomy
- Partial small remnant disc particle: 2 cases
- Transient numbness of Leg: 3 cases

@ There were no serious complications, such as infection, nerve injury or dura tear.
Conclusions

• PELD is a safe and effective treatment option for upward migrated disc in the upper lumbar spine.

• For the anatomical aspect, this approach is favorable because of its wide foramen and small diameter of nerve root in the upper lumbar spine.
E-Poster #P111

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