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## Characterization and risk factors analysis for re-operation after micro-endoscopic discectomy to treat lumbar disc herniation

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A population-based database was analyzed to identify the causes, characteristics of reoperations and associated risk factors after microendoscopic discectomy (MED) to treat lumbar disc herniation (LDH). A series of 952 patients who underwent MED for single-level LDH between 2005 and 2010, were included in this study. Out of this series, 58 patients had revision spinal surgery. The causes and clinical parameters including the intervals between primary and reoperations, grade of disc degeneration, and surgical findings in the revisions were retrospectively assessed. The possible risk factors including age, sex, weight, occupation, duration of surgery, blood loss and radiological findings were evaluated by multivariate logistic regression analysis. In total, 76 disc herniations were excised in revision discectomies with or without inter-body fusion for the most common reason-recurrent disc herniation or epidural scar. The overall mean interval between primary and revision surgeries was 39.05 months (range, 2 months to 95 months). Cumulative overall reoperation rate at 1, 3, 5 years were 1.56%, 2.74%, 5.23% respectively and gradually increased to 8.17% after near 10 years. Compared to the non-re-operated patients, re-operated patients had older age, higher level of lumbar degeneration, with severe Modic change (Grade-I 17.2%, Grade-II 34.5%, compared with Grade-I 1.5%, Grade II 30.6% in single-operated patients) and obvious adjacent disc degeneration (81.1%, higher than single-operated patients' 48.1%). By logistic regression analysis, adjacent segment degeneration and Pfirrmann grading for disc degeneration were identified as significant risk factors related to reoperation after primary MED (OR 2.448, 1.510 respectively). Our study presented a relatively low incidence of reoperation after primary MED. Adjacent segment degeneration, Pfirrmann grading for disc degeneration seem to be the most important risk factors for reoperations after MED to treat LDH. The treatment options for patients with these factors at first visit should be carefully measured.

### Biography

Rui Shi completed his MD from Southeast University and is currently pursuing PhD at Southeast University.

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