Unilateral Microdecompression In Lumbar Canal Stenosis With Degenerative Olisthesis

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Citation


Abstract

The purpose of this report is to present microscopic decompression through unilateral approach in patients with lumbar spinal canal stenosis and to show follow-up studies of consecutive 321 cases including 250 cases with lumbar instability in X-ray film.

Indications: The patient who had following conditions was selected.
1. Main clinical symptom is cauda equina intermittent claudication
2. Main pathology showed by neuroradiological studies is dural compression by hypertrophied yellow ligaments.
3. Symptoms related to an unstable spine is mild.
4. Over 3 months conservative therapy failed to improve the claudication.

Method: A 3-4 cm posterior midline incision is enough to perform microscopic decompression. The one side of paraspinal muscle was divided by finger after cutting fascia. The operation field was maintained by special retractor designed by the author. A lateral half of spinal process was removed to obtain clear visualization. A deformed and hypertrophied inferior facet was reamed to be paper-thin with surgical air tome. A hypertrophied yellow ligament that compressed dural sac was released at its laminar attachments in both rostral and caudal lamina edges. Detaching yellow ligament from the lamina at one stage enabled us a safe decompression to neural tissue. We retracted dural sac medially and to observe the disc. To observe opposite side of spinal canal, light axis of the microscope was changed. It was possible to remove yellow ligaments of opposite side by using microscope.

Patients: We performed unilateral approach microscopic decompression in 433 patients with lumbar spinal canal stenosis from October 1, 2002 to August 30, 2005. We directly followed 321 patients at least 6 months (22.9 months in average). There were 148 females and 173 males. The mean age was 66.7 by.of.(37-86). Preoperative JOA sore was 15.9/29 in average. Patient-base outcomes were evaluated with SF36. Preoperative X-ray showed some instabilities in 250 patients, including forward slipping, backward slipping, scoliosis and rotational instability. Results: Preoperative 15.9 points of JOA score was improved to 21.9 points postoperatively. Intermittent claudication improved in 87% of patients and low back pain improved in 77%. However, numbness in foot improved in 56%. Seven of 8 Lower scales in SF36 were significantly improved. There were no statistical differences between the results in patients having showed instabilities and no instabilities. The post operative slip angle and percent slip did statistically not change. The postoperative Cobb angle statistically improved. Re-operation was performed in 30 of 69 failed patients. Twenty-seven patients was recovered with additional microscopic decompression surgeries. The fusion technique was needed in 3 patients.

Conclusion: We should perform spinal surgery as minimally as possible especially in elderly patients. A unilateral microdecompression with one stage resection of yellow ligaments enabled us a safe decompression to dural tube. The preferable prognosis was obtained with this technique in patients even with X-ray lumbar instability.
References
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