

Ambulatory endoscopic lumbar decompression in geriatric patients: a prospective feasibility and outcomes study

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Introduction

Outpatient spine surgery is expanding, yet its feasibility and safety in geriatric patients remain insufficiently documented. Endoscopic lumbar decompression may facilitate ambulatory management through tissue-sparing approaches and faster recovery. This prospective study evaluated the feasibility, clinical effectiveness, and safety of outpatient endoscopic lumbar decompression in patients aged ≥ 75 years.

Materials and Methods

A prospective non-interventional study included consecutive patients aged ≥ 75 years undergoing planned outpatient endoscopic lumbar decompression for degenerative lumbar stenosis. Outpatient success was defined as absence of inpatient admission within 30 days. Sociodemographic, comorbidity, surgical, and patient-reported outcomes (lumbar and radicular VAS, ODI, EQ-5D-5L, EQ-VAS, SF-36, walking distance, IADL) were collected preoperatively and at 3 months. Non-parametric tests were used with significance set at $p < 0.05$.

Results

Thirty-four patients were analyzed (mean age 80 ± 4 years; 59% female). Outpatient management was successful in 73% (25/34). Nine patients (27%) required hospitalization, mainly on the day of surgery due to insufficient recovery in the post-anesthesia care unit or logistical reasons. Chronic kidney disease was more frequent in the failure group (33.3% vs 4.0%; $p = 0.04$), whereas BMI was higher in the success group (28.0 ± 4.0 vs 25.3 ± 2.4 kg/m²; $p = 0.02$).

Significant improvements were observed at 3 months across all major outcomes: lumbar VAS -2.0 points ($p < 0.05$), radicular VAS -5.2 ($p < 0.05$), ODI -21.5 ($p < 0.05$), EQ-5D-5L index $+0.30$ ($p < 0.05$), EQ-VAS $+17.6$ ($p < 0.05$), SF-36 PCS $+2.9$ and MCS $+6.5$ (both $p < 0.05$), and walking distance $+300$ m ($p < 0.05$). No surgical-site infections, no conversions to open surgery, and no reoperations occurred during follow-up.

Conclusion

Outpatient endoscopic lumbar decompression is feasible in selected patients aged ≥ 75 years, with meaningful improvements in pain, function, and quality of life and a favorable safety profile. Advanced age alone should not be considered a contraindication to outpatient spine surgery. Most failures were related to early postoperative recovery or logistics, suggesting that optimization of perioperative pathways may further increase ambulatory success in this growing population.