

Risks and Outcomes of Degenerative Lumbar Surgery in Patients with Parkinson's Disease

Marco Teli (Milano, Italie), Davor Dasic (Milano, Italie), Giovanni Paternò (Milano, Italie)

Introduction

Parkinson's disease (PD) is frequently associated with degenerative lumbar spine disorders and postural deformities leading to pain, disability, and reduced quality of life. Lumbar surgery in these patients is often considered high risk due to concerns regarding perioperative complications and potentially inferior functional outcomes compared with the general population. The aim of this study was to evaluate safety, perioperative course, and clinical-functional outcomes of elective degenerative lumbar surgery in patients with PD, compared with matched controls.

Materials and Methods

A retrospective cohort study was conducted using an institutional database. Twenty-nine patients with PD undergoing elective degenerative lumbar surgery between 2020 and 2024 were compared in a 1:3 ratio with 87 controls without PD, matched for age, sex, and underlying pathology. Intra- and postoperative complications, reoperation rate, length of hospital stay, and clinical outcomes were analysed. Clinical status was assessed using the Core Outcome Measures Index (COMI) preoperatively and at 3 and 12 months postoperatively. Body mass index (BMI), anaesthetic risk class (ASA), and specific diagnoses (disc herniation, stenosis, spondylolisthesis) were recorded.

Results

The groups were comparable in terms of BMI and ASA class. Spondylolisthesis was more frequent among patients with PD. No significant differences were observed in intra- or postoperative complications or reoperation rates. Length of hospital stay was significantly longer in patients with PD ($p < 0.05$). Both groups demonstrated significant clinical improvement in low back and radicular pain at 3 months and 12 months compared with baseline ($p < 0.001$). At 3 months, controls showed less functional limitation than patients with PD ($p < 0.05$); however, these differences were no longer evident at 12-month follow-up. Curves did remain statistically unchanged until final follow-up.

Conclusion

Despite a longer hospital stay and initially slower recovery, degenerative lumbar surgery in patients with PD appears safe and associated with mid-term clinical improvements comparable to those of matched controls. No increased risk of complications or reoperations was observed, suggesting that PD alone should not be considered a contraindication to surgery in appropriately selected patients managed in experienced multidisciplinary spine centres.