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### Minimally Invasive Surgery for Degenerative Lumbar Pathology - An institutional experience

**Aim:** Aim of the study was to compare the functional outcome of open vs. minimally invasive surgery in degenerative lumbar pathology.

**Material and Methods:** All patients undergoing surgery for degenerative lumbar pathology were prospectively followed for one year. VAS (Visual Analogue Score), ODI (Oswestry Disability Index) were used to analyze the functional outcome at postoperative period day one, two weeks, One month, three months, six months, and one year. Data was divided into an open and minimally invasive group (MIS) and the analyzed P-value <0.05 was taken as significant.

**Result:** 488 patients were included in the final analysis. 164 were from the MIS group and 242 underwent open surgery. TLIF was done 142 patients of which 56 (39.4%) underwent MIS TLIF. 240 patients were operated on for discectomy. 104 (43.3%) were from the MIS group and 136 (56.6%) underwent open discectomy. While pre-operative mean VAS scores were comparable for both the groups. Follow-up VAS scores were significantly better for the MIS group at postoperative day one (P=0.001), two weeks (P=0.001), One month (P=0.001), three months (P=0.003), and Six months. (P=0.023). Similarly, ODI scores were also significantly better for the MIS group at postoperative day one (P=0.004), two weeks (P=0.001), and one month (P=0.003). No significant difference was found between one-year VAS scores between the two groups (P=0.145). Similarly, ODI scores were comparable between the two groups at three months, six months, and one year. The incidence of dural tear was slightly less (14.4%) in the minimally invasive group compared to open surgery (16.13%) without any significant statistical difference (p=0.698). While two cases of dural tear from the open group required revision exploration and re-suturing. No cases of CSF leak during the MIS procedure required operative revision.

**Conclusion:** Functional outcomes of minimally invasive surgery for degenerative lumbar pathology are comparable with open surgery with significantly improved VAS scores up to 6 months and significantly better ODI scores up to one month for the MIS group.

#### Biography

Ayush Sharma is a Unit Head of Spine Surgery (Consultant Orthopaedic Spine Surgeon, Government of India, Ministry of Railways, and Indian Railways Medical Services) Department of Orthopaedic and Spine surgery at Dr. Babasaheb Ambedkar Central Railway Hospital, Mumbai, India. Dr. Babasaheb Ambedkar Central Railway Hospital is the tertiary care zonal hospital at Mumbai, providing free orthopaedic and spine care to over one-lakh families of employees of central railways across the state of Maharashtra, Madhya Pradesh, and Karnataka. As a Spine Surgeon working at zonal headquarter of central railway I am responsible for managing all the spine cases of the department. My responsibilities also include teaching and training postgraduate orthopaedic students in both clinical and surgical training. I am also responsible for department-related administrative work and all the research works in the field of Orthopaedics and Spine Surgery.

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