

Spinous-process-splitting versus conventional decompression for lumbar spinal stenosis: comparative study with respect to short-term postoperative pain and analgesics use

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OBJECTIVE

Several microsurgical techniques are available for the decompression of lumbar spinal stenosis (LSS). More recently, a spinous process-splitting laminectomy (SPSL) technique was introduced, with the premiss of diminishing paraspinal muscle damage. This study aims to compare the neurological and functional outcomes, as well as the differences in early postoperative pain and analgesics use during hospitalization after conventional decompression (CD) vs. SPSL surgery for LSS.

METHODS

Single-center retrospective analysis of all spinal decompression procedures (CD or SPSL), which were performed or supervised by one consulting spine surgeon, performed for LSS between 2015 and 2020. Preoperative neurological symptoms, functional outcomes as well as perioperative analgesics use and reported pain scales during hospitalization were analyzed.

RESULTS

From a total of 106 patients, 58 were treated using CD and 48 using SPSL. In both groups, around 30% of the patients were taking opiates preoperatively (38% for CD, 31% for SPSL). Patients submitted to SPSL reported more pain on first postoperative day but significant less pain in the further postoperative course (day 3 numeric rating scale, NRS 2.4 vs. 3.4, $p=0.03$ and on day 5 NRS 2.5 vs. 3.7, $p=0.009$). Equal or less cumulative doses of analgesics were administered postoperatively (significantly less paracetamol on day 5 compared to CD; $p = 0.013$). Both groups showed a similarly favorable outcome in terms of improved mobility and there were no significant differences between complications and re-stenosis rates between both techniques.

CONCLUSION

Patients treated with SPSL technique for LSS showed an equivalent favorable functional outcome compared to CD. However, SPSL patients showed significantly less subacute postoperative pain while using equal amounts or

fewer analgesics postoperatively.

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