Reoperation after primary lumbar discectomy with or without implantation of a bone-anchored annular closure device: Surgical strategies and clinical outcomes

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Abstract

Objective: To determine whether presence of a bone-anchored annular closure device (ACD) impacts reoperation strategies and subsequent outcomes.

Methods: Patients with large annular defects after single-level limited lumbar discectomy were randomly allocated to receive an ACD or discectomy alone (controls) and were followed for at least 3 years.

Results: Among 550 patients, reoperation risk was lower with ACD (11.0% vs. 19.3%). The types of reoperations and operative time were similar in each group, and the ACD did not interfere with surgical planning or operative technique. Fusion success was 87% with ACD versus 85% for controls. Perioperative complications occurred in 22% and 19% of reoperations, respectively. Leg pain and back function were improved with ACD versus controls after fusion procedures, and no group differences were observed after non-fusion reoperations.

Conclusions: In patients undergoing post-discectomy reoperation, patients with an ACD were treated with similar operative techniques, were not exposed to additional surgical risks, and reported comparable clinical outcomes versus those without an ACD.