

Standalone interbody fusion using PLIF for treatment of Lumbar disc herniation with collapsed disc.

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Abstract

Background: Chronic low back pain (LBP) and radicular pain due to lumbar disc prolapse affect many people. Interbody fusion represents a valid surgical treatment in degenerative lumbar spine diseases, achieving satisfying results in most patients. PLIF stabilizes the painful motion segment and may provide indirect decompression of the neural elements and restore lordosis and disc height.

Objectives: To assess the clinical and radiological outcome of patients with lumbar disc prolapse with collapsed disc height operated by discectomy and Standalone PLIF fusion to restore disc height.

Patients and Methods: This is a prospective study that had been occurred between October 2022 until October 2023 on 57 patients with single-level lumbar disc prolapse indicated for surgery in the neurosurgery department at Fayoum University Hospital and neurosurgery department at Beni-Suef university hospital.

Results: There was a statistically significant change in the disc height which increased from a mean preoperative height of 7.68 ± 1.13 mm to a mean postoperative height of 10.40 ± 1.43 mm, with a mean difference of 2.73mm (95% CI: 2.55 to 2.90), p-value <0.001.

There was a statistically significant change in LBP and radicular pain. Post-hoc analysis using the Bonferroni method showed that the mean LBP score on VAS score, 3 months post-operative was 1.86 ± 1.04 ; which was a lower score compared with the mean preoperative LBP score of 4.44 ± 1.88 .

Conclusion: We concluded that the PLIF technique without screws fixation is a valid modality of treatment of discogenic low back pain associated with radicular lower limb pain. Restoration of disc height improves radicular pain by foramen decompression and fusion improves Low back pain.