

# Good Functional Outcome and Adjacent Segment Disc Quality 10 Years after Single-Level Anterior Lumbar Interbody Fusion with Posterior Fixation

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## Abstract

We reviewed the records of a prospective consecutive cohort to evaluate the clinical performance of anterior lumbar interbody fusion with a titanium box cage and posterior fixation, with emphasis on long-term functional outcome. Thirty-two patients with chronic low back pain underwent anterior lumbar interbody fusion and posterior fixation. Radiological and functional results (visual analogue scale [VAS] and Oswestry score) were evaluated. Adjacent segment degeneration (ASD) was evaluated radiologically and by magnetic resonance imaging (MRI). Twenty-five patients (78%) were available for follow-up. Functional scores showed significant improvement in pain and function up to the 2-year follow-up observation. At 4 years, there was some deterioration of the clinical results. At 10-year follow-up, results remained stable compared with 4-year results. MRI showed ASD in 3/25 (12%) above and 2/10 (20%) below index level (compared with absent preoperatively). ASD could not be related to clinical outcome in this study. Anterior lumbar interbody fusion and posterior fixation is safe and effective. Initial improvement in VAS and Oswestry scores is partly lost at the 4-year follow-up. Good clinical results are maintained at 10-year follow-up and are not related to adjacent segment degeneration.

## Keywords

functional outcome - long-term follow-up - anterior lumbar fusion - adjacent segment disease

## 單節段前路腰椎椎間融合及後路內固定手術 10 年後，良好的功能性結果和相鄰節段椎間盤的品質

我們檢閱了前瞻性連續世代研究的記錄，評估進行了以鈦金屬盒狀椎體護架前路腰椎椎間融合和後路內固定後的臨床表現，並著重於長期的功能性結果。32 名患有慢性下背痛的病人進行前路腰椎椎間融合及後路固定手術。放射學和功能性結果（視覺類比量表 VAS 和歐式下背痛失能量表 Oswestry score）進行了評估。相鄰節段退變（ASD）以放射性檢查和磁力共振成像（MRI）評估。25 個病例（78%）可進行跟進。經過 2 年的跟進觀察，功能評分顯示疼痛和功能顯著改善。於第 4 年，有些退化的臨床結果。在第 10 年的跟進，結果與 4 年的結果相比仍保持穩定。磁力共振成像顯示 ASD 指數在 3/25（12%）以上，2/10（20%）低於指標水平（與手術前完全沒有相鄰節段退變相比）。ASD 不能與本研究的臨床結果關聯。前路腰椎椎間融合術和後路內固定是安全和有效的。初期在視覺類比量表 (VAS) 和歐式下背痛失能量表 (Oswestry score) 改善的評分在第 4 年的跟進後有部分會丟失。在第 10 年的跟進中仍保持良好的臨床結果並與相鄰節段退變是不相關的。