

Bilateral Pedicle Screw Fixation versus Unilateral Pedicle and Contralateral Facet Screws for Minimally Invasive Transforaminal Lumbar Interbody Fusion: Clinical Outcomes and Cost Analysis

Study Design Retrospective clinical study.

Objectives Recent biomechanical studies have shown no differences in stiffness or range of motion following minimally invasive (MIS) transforaminal lumbar interbody fusion (TLIF) between unilateral pedicle and contralateral facet screw (UPFS) and bilateral pedicle screw (BPS) constructs. No studies have compared these two constructs based upon clinical outcomes.

Methods Twenty-six consecutive patients who had single-level MIS TLIF were retrospectively reviewed. Outcome measures collected for patients with BPS were compared with those with UPFS.

Results No associations were found between construct and length of stay ($p = 0.5$), operative time ($p = 0.2$), or Odom's criteria ($p = 0.7$); 79% of patients in the UPFS group as compared with 71.5% in the BPS group had good or excellent outcomes. Mean follow-up was 17.7 months for the UPFS group and 20.2 months for the BPS group. There was one complication in each group, including a seroma in the BPS group and a revision operation in the UPFS group. Implant costs for the BPS group were 35% greater than the UPFS group.

Conclusions The present study is the first to demonstrate that patients undergoing MIS TLIF with BPS as compared with UPFS for single-level degenerative lumbar disease had similar clinical outcomes.

雙側椎弓根螺釘內固定與單側椎弓根及對側脊椎小面螺釘微創經椎間孔腰椎椎體間融合術：臨床結果和成本分析

研究設計 回顧性臨床研究。

目標 最近的生物力學研究顯示，在微創（MIS）經椎間孔腰椎椎體間融合術（TLIF）中單側椎弓根及對側脊椎小面螺釘（UPFS）和雙側椎弓根螺釘（BPS）的構造對僵硬或關節活動幅度並沒有明顯差異。沒有研究是基於臨床結果比較這兩種結構。

方法 連續 26 名進行了單節段 MIS TLIF 的患者進行了回顧性分析。由使用 BPS 患者收集得來的成果措施與那些使用 UPFS 患者進行比較。

結果 在結構和住院時期（ $P = 0.5$ ），手術時間（ $P = 0.2$ ），或 Odom's 臨床療效評定標準（ $P = 0.7$ ）之間並沒有關聯；79% 在 UPFS 組的患者比 71.5% 在 BPS 組的患者有良好或優異的成果。UPFS 組的平均跟進時期為 17.7 個月，而 BPS 組的平均跟進時期為 20.2 個月。在兩組中分別有一個出現併發症，包括 BPS 組中有一個血清腫和 UPFS 組有一個需要進行翻修手術。BPS 組的植入物成本比 UPFS 組多 35%。

結論 本研究是首次證明對單節段退化性腰椎疾病以 BPS 與 UPFS 進行 MIS TLIF 比較是有相似的臨床結果。