

Patient Reported Outcomes Following Surgery for Degenerative Spondylolisthesis: Comparison of a Universal and Multi-Tier Health Care System

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Introduction

Canada has a national health insurance program with unique properties: it is single-payer, coverage is universal and access to specialist care requires referral by the primary care physician. The United States on the other hand is a multi-tier public/private payer system with more rapid access for insured patients to specialist care.

Methods

Surgical DS patients treated between 2013 and 2016 in Canada were identified through the Canadian Spine Outcome Research Network (CSORN) database. This population was compared with the surgical DS arm of patients treated in the Spine Patients Outcome Research Trial (SPORT) study. We compared baseline demographics, spine-related, and health-related quality of life (HRQOL) outcomes at 3-months and 1-year. Multivariate analysis was used to identify factors predictive of outcome in surgical DS patients.

Results

The CSORN cohort of 213 patients was compared to the SPORT cohort of 248 patients. Patients in the CSORN cohort were younger (mean age 60.1 vs. 65.2; $p < 0.001$), comprised fewer females (60.1% vs. 67.7%; $p = 0.09$), and had a higher proportion of smokers (23.3% vs. 8.9%; $p < 0.001$). The SPORT cohort had more patients receiving compensation (14.6% vs. 7.7%; $p < 0.001$). The CSORN cohort consisted of patients with slightly greater baseline disability (ODI scores: 47.7 vs. 44.0; $p = 0.008$) and had more patients with symptom duration of greater than 6-months (93.7% vs. 62.1%; $p < 0.001$). The CSORN cohort showed greater satisfaction with surgical results at 3-months (91.1% vs. 66.1% somewhat or very satisfied; $p < 0.01$) and 1-year (88.2% vs. 71.0%, $p < 0.01$). Improvements in back and leg pain were similar comparing the two cohorts. On multivariate analysis, duration of symptoms, treatment group (CSORN versus SPORT) or insurance type (public/Medicare/Medicaid vs. Private/Employer) predicted higher level of post-operative satisfaction. Baseline depression was also associated with worse ODI at 1-year post-operative follow-up in both cohorts.

Conclusions

1. Surgical DS patients treated in Canada (CSORN cohort) reported higher levels of satisfaction than in SPORT cohort despite similar baseline HRQOL measures.
2. Symptom duration and insurance type appeared to impact satisfaction levels.
3. Improvements in other patient reported health-related quality of life measures were similar between cohorts.

Figure 1

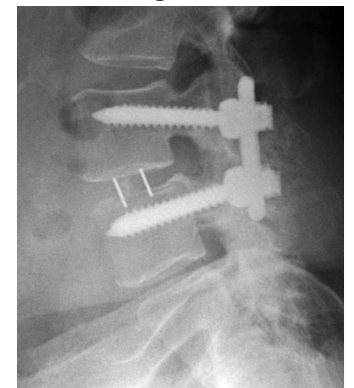


Degenerative spondylolisthesis. Sagittal T2 MRI demonstrating L4-5 spondylolisthesis with associated stenosis

Learning Objectives

Surgical outcomes for comparable patients may differ according to the health care system in which they receive treatment

Figure 2



L4-5 degenerative spondylolisthesis treated with decompression and transforaminal lumbar interbody fusion.