Surgical Treatment of Post-laminectomy Syndrome Varies Dependent on Population Density, Region, and Insurance Payor

Robert Wagner Bina MD; Anand Indulal Rughani MD; G. Michael Lemole MD; Travis Michael Dumont MD
Banner University Medical Center, Tucson, Arizona

CNS 2016 ANNUAL MEETING San Diego CALIFORNIA SEPTEMBER 24-28, 2016

Introduction

Post laminectomy pain syndrome is a perplexing and challenging complaint common in neurosurgical spine practice.

There are a multitude of treatment options:

- Fusion
- Neuromodulation
- Intrathecal analgesia
- Revision laminectomy
- Non-operative treatment

To understand regional treatment differences (Weinstein 2006), the National Inpatient Sample NIS was queried.

Methods

NIS queried for years 2008-2012 with code 722.80 (lumbar postlaminectomy syndrome).

Cases were compared for primary surgical interventions:

- Fusion
- Spinal Cord Stimulator (SCS)
- Intrathecal Drug Pump Implantation (IT pump)
- Laminectomy or microdiscectomy
- Non-operative treatment

Treatment options were compared based on:

- Insurance Payor
- Hospital Type
- Region
- Hospital Charges (USD)

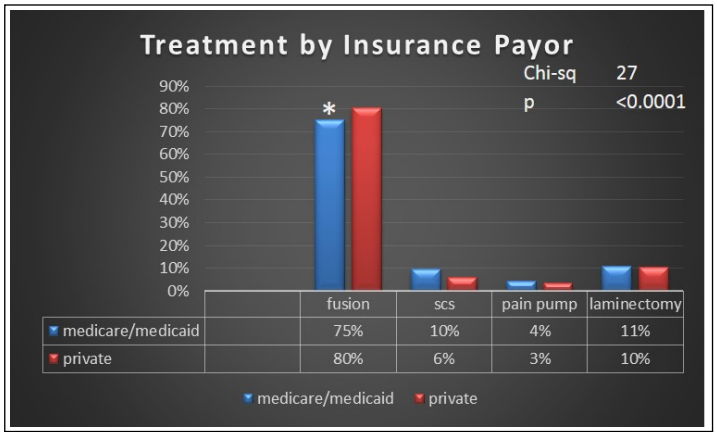
All statistics were performed with SAS and compared with Chi-square statistics or ANOVA where appropriate.

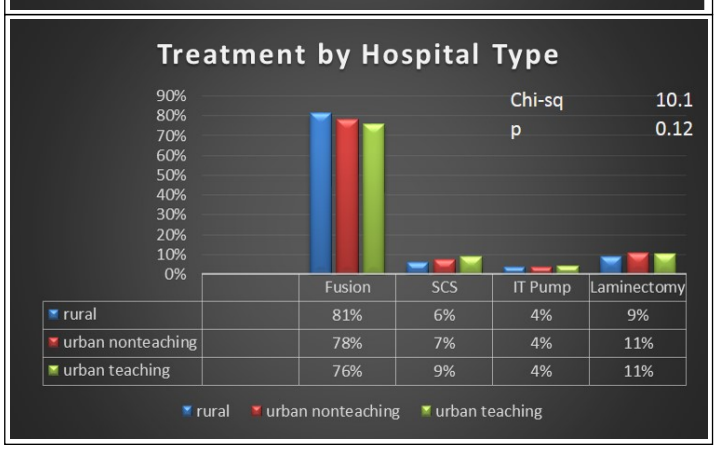
Results

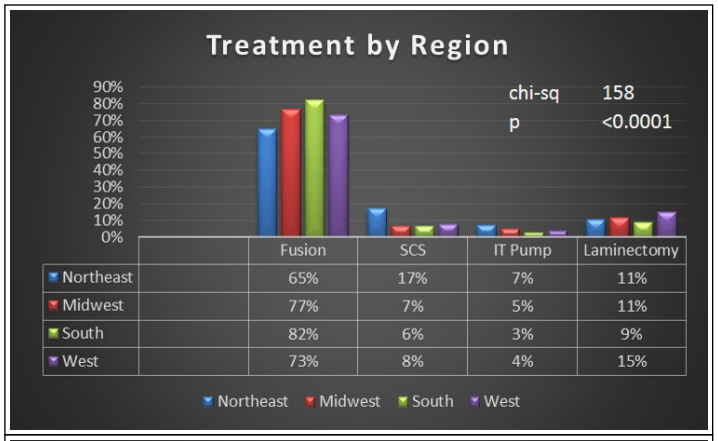
6189 patients post-laminectomy syndrome

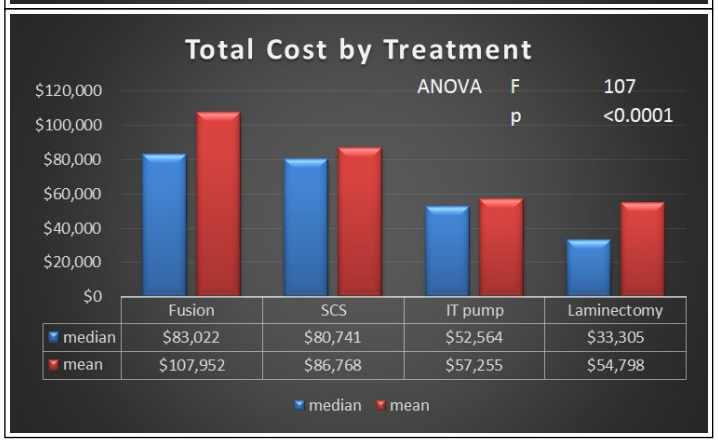
- Fusion - 4270 (69%)
- SCS - 435 (7%)
- IT Pump - 186 (3%)
- Laminectomy - 124(2%)
- No Surgical Intervention - 1,114 (18%)

Fusion is more common South and with private insurance.
SCS is more common in Northeastern states and with Medicare/Medicaid.









Conclusions

These data demonstrate regional and socioeconomic differences in the implantation of SCS as a treatment for post-laminectomy syndrome. This is relevant given disparate hospital charges and treatment outcomes for the different procedures (Mummaneni 2014; Kumar 2009)

References

Weinstein JN, et al., 2006. United States' trends and regional variations in lumbar spine surgery: 1992-2003. Spine (Phila Pa 1976). Nov 1;31(23):2707-14.
Mummaneni PV, et al. 2014. Cost-effectiveness of lumbar discectomy and single-level fusion for spondylolisthesis: experience with the NeuroPoint-SD registry. Neurosurg Focus. Jun;36(6)
Kumar K, Bishop S. 2009. Financial impact of spinal cord stimulation on the healthcare budget: a comparative analysis of costs in Canada and the United States. J Neurosurg Spine. Jun;10(6):564-73