

Hopwood MB, Abram SE. Factors Associated With Failure of Lumbar Epidural Steroids. Regional Anesthesia 1993;18:238-43.

Design: Case series

Population/sample size:

- 209 adults treated with lumbar epidural steroid injections for low back pain
- All received 50 mg Aristocort with 1% lidocaine; drug placement assessed by post-injection sensory testing & symptomatic response
- Up to 3 injections given depending on response to first injection

Main outcome measures:

- Success/failure assessed based on pain scale, activity level, analgesic use, and straight leg raising; treating physician and reviewer agreement was 93.5% with kappa of 0.86 (high interrater reliability)
- 95 failures, 110 successes analyzed
- Odds ratios for failure analyzed both by both univariate and multiple logistic regression
- Lack of high school education, smoking, unemployment, nonuse of alcohol, non-radicular pain, sleep disruption, and greater than 6 months duration of pain associated with failure on univariate analysis
- Intensity of pain at its most severe not associated with failure, but high intensity of pain at its least severe was associated with failure
- Non-radicular pain, unemployment, duration past 6 months, and smoking remained significant in logistic model which was limited to variables for which 90% of cases had complete data

Authors' conclusions:

- Employment remained significant when adjusted for other variables, perhaps because of association with less severe pain
- Smoking association may be due to lack of exercise/poor health behaviors, or may be direct physiologic effect of nicotine on back
- Duration past 6 months and non-radicular pain both predict poor response to steroid injections

Comments:

- Odds ratios in article may overstate relative risks, since prevalence of failure was high (nearly half the population), but significance of association remains intact
- Assessments of success and failure were made by treating physician, who was aware of the variables being evaluated as predictors of success and failure, creating a high risk of bias in the results
- Results support preferring radicular pain as indication for steroid injection, but not unbiased enough to qualify for an evidence statement to that effect

- Recommendation for smoking cessation as part of back pain treatment supported by results, even though the methods do not support an evidence statement

Assessment: Inadequate for evidence statement, but useful as information that nonradicular pain and smoking are predictors of an unsatisfactory outcome of epidural steroid injection