

Conference abstract

Preoperative Epidural Steroid Injections and Infection Risk in Lumbar Spine Surgery: A Single-Center Retrospective Cohort Study

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INTRODUCTION

Low back pain is a leading cause of work-related disability worldwide. Epidural steroid injections (ESIs) are commonly used as nonoperative treatments for patients with degenerative lumbar spine pathology. Hence, it remains imperative to further elucidate the association between preoperative ESIs and postoperative outcomes in this population. This study seeks to evaluate the association between the timing of preoperative ESIs and the incidence of surgical site infections (SSIs) in patients undergoing lumbar spine surgery. We hypothesize that the timing of preoperative ESI administration is not associated with an increased risk of postoperative surgical site infection in patients undergoing lumbar spine surgery.

METHODS

This retrospective study analyzed patients who underwent lumbar spine surgery from January 2020 to December 2021. Patients were stratified based on ESI status: no ESI, most recent ESI within three months preoperatively (early group), and most recent ESI equal to or greater than three months preoperatively (late group). All patients were followed for at least one year postoperatively to monitor for SSI. Bivariate correlation analysis using Spearman's rank correlation coefficient was performed to identify risk factors for SSI. Infection rates across ESI groups were compared using Pearson's chi-square test, Fisher's exact test, or the chi-square test of independence, selected based on sample size and expected cell counts.

RESULTS

Among 94 patients, 49 received a preoperative ESI. Of these, 11 patients were in the early ESI group and 38 in the late ESI group. The overall infection rate was 2.2%, with one infection in each ESI subgroup. No significant difference in SSI rates was observed between the early and late ESI groups ($p=0.171$). Higher BMI, use of Disease-Modifying Antirheumatic Drugs (DMARDs), and higher American Society of Anesthesiologists (ASA) scores were associated with an increased SSI risk ($p<0.05$).

CONCLUSIONS

In this retrospective cohort study of 94 lumbar spine surgery patients, the timing of preoperative epidural steroid injections (ESIs) was not associated with increased postoperative surgical site infection (SSI) risk, as infection rates were similar among patients with no prior injection, injections within three months, and injections greater than three months prior to surgery. Higher body mass index, DMARD use, and higher ASA scores were associated with greater SSI risk, suggesting patient comorbidities may be more important predictors than injection timing. These findings add to current evidence that delaying lumbar surgery solely because of prior ESI timing may be unnecessary and that optimizing modifiable risk factors may better improve postoperative outcomes.



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