

The Role of Intravenous Lidocaine in the Analgesia of Surgical Scoliosis Patients

Introduction

Patients undergoing elective spinal surgery for scoliosis are often in a lot of pain post-operatively, and the mainstay modalities for pain control often include opioids which can expose the patient to potential side effects. Recent studies have demonstrated that not only is intravenous lidocaine safe, but has an analgesic and anti-inflammatory effect that is effective in post-operative pain management. Anesthesiologists at the University of Virginia have been giving post-operative lidocaine infusions to our patients recently, and we aim to retrospectively review the record since its inception in 2012 and determine the pain control regimen scoliosis patients underwent, how it has evolved, and what effects on pain scores, opioid consumption, and recovery are present.

Method

We retrospectively reviewed 172 patients that had undergone an elective neuromuscular or idiopathic scoliosis surgery at our institution dating back to January 1st, 2012. We looked at the total amounts of medications given for pain as well as analyzed their pain scores, length of stay, first bowel movement, and progress with physical therapy.

Results

Out of the 172 patients reviewed, 158 were included in the study. Neuromuscular scoliosis was the diagnosis for 28 of these patients. Exclusion criteria were trauma, cancellations after admission, and spondylolisthesis. Three patients were removed due to their age of greater than 18 years. Of the included patients, 22 patients received a post-operative lidocaine infusion. The average Morphine Equivalents (ME) for each hospitalization was 118.31. The average ME was 101.53 for patients that did receive a post-operative lidocaine infusion (POLI) and 121.01 for patients that did not receive a POLI. The average length of stay (LOS) was 4.13 for patients with a POLI and 4.05 for patients without a POLI. The average POD to first documented bowel movement was 2.21 for patients with a POLI and 2.85 for patients without a POLI. Every patient except one was out of bed on the first POD.

Conclusion

There appears to be a benefit to POLI in patients in regards to the amount of opioids required for pain control. Patients that received a POLI had a lower ME average per hospitalizations than patients that did not receive a POLI. Length of stay did not appear to be affected, but time to first bowel movement did also appear to have a positive benefit with patients who received a POLI. Further plans would be to do statistical analysis of the data we have collected. Afterwards, we would like to begin a randomized prospective study regarding elective scoliosis cases where patients will either receive a lidocaine infusion or saline placebo infusion.