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“Adoption of perioperative lidocaine infusion for the reduction of postoperative pain”

Abstract
Laparoscopic capability provides numerous benefits to patients requiring abdominal surgical procedures. However, the use of these techniques has presented the anesthesia provider with a unique set of challenges in terms of perioperative management and postoperative pain reduction. No standardized method has existed to reduce postoperative pain and improve recovery following these procedures. There were three primary goals of this project. The first goal was to conduct a meta-analysis of randomized controlled trials to determine the benefit of the use of intravenous lidocaine infusions to reduce postoperative pain in laparoscopic abdominal surgery. Twelve articles were included in the meta-analysis that pertained to the use of intravenous (IV) lidocaine with laparoscopic abdominal surgery to reduce postoperative pain. The result of the meta-analysis was that there was a statistically significant decrease in postoperative pain when lidocaine infusion was administered versus control in laparoscopic abdominal surgery ($p < 0.001$). The second goal was to use the information from the meta-analysis to produce an Evidence-Based Clinical Practice Update to present to a group of anesthesia providers about the benefits and risks of adding perioperative lidocaine infusions to current anesthesia practice with laparoscopic abdominal surgery. The third goal was to identify barriers in the clinical environment to the implementation of this practice change. A questionnaire was used in this study to identify these barriers to future implementation from the perspective of anesthesia providers ($n = 7$) and the information attained from the meta-analysis was used to formulate the Evidence-Based Clinical Practice Update that was presented to the participants of the study. Two barriers to implementation were found in the results of the questionnaire. Those barriers were a perceived increase in cost, and a lack of availability of pre-mixed lidocaine infusions.