

Application of Continuous Incisional Infusion of Local Anesthetic after Major Pediatric Urological Surgery

Introduction and Objective: To determine the efficacy of the newly developed locally infused anesthetic, ON-Q pain relief system (Kimberly-Clarke, Georgia), in improving postoperative pain, reducing narcotic requirement, and shortening recovery time after major pediatric urological surgery.

Material and Methods: A case-control analysis comparing 20 patients undergoing major urological procedures who were treated postoperatively with the ON-Q system was compared to 20 patients treated with current hospital standard of care intravenous and oral analgesics. Pain was assessed in both groups by staff nurses using the Visual Analog Scale (VAS) or the Face, Legs, Activity, Cry, Consolability Scale (FLACC) depending on the child's age. Information regarding analgesic consumption along with recovery parameters such as temperature, start of oral nutrition, and length of hospitalization (LOH) were collected.

Results: The ON-Q group experienced significantly lower ratings of maximal pain on the first postoperative day as compared to the control group (3 vs. 5.2, $p=0.03$) and a trend toward lower mean of maximal pain score on post operative day two (1.8 vs. 3.5, $p=0.055$). Systemic intravenous and oral analgesics were significantly lower on the day of surgery and the first postoperative day for the ON-Q group ($p=0.014$; and $p=0.046$ respectively). No differences in frequency of fever, start of oral nutrition and LOH were found between study groups.

Conclusion: Continuous incisional infusion of local anesthetic with the ON-Q system is a viable option for postoperative pain management in children undergoing major urological surgeries. This technology significantly decreases the need for systemic analgesic consumption.