

P65

WOUND INFILTRATION CATHETER FOR PAEDIATRIC LAPAROTOMY - A PILOT STUDY

T. A. Woodward, C. Wilson

Bristol Royal Hospital for Children, UK

Introduction & Aims

Local anaesthetic wound infiltration catheters have been used in adults and in other paediatric centres to provide supplemental analgesia following open laparotomy surgery. Placing the catheter directly into the wound at the end of surgery provides analgesia to the operative site and is an efficient, non-opioid pharmacological approach to postoperative analgesia (1). We examined pain scores, total opioid consumption and opioid induced side effects in patients undergoing laparotomy having wound infiltration catheters placed and compared these to standard postoperative analgesia management.

Methods

This was a non-randomised cohort study where all patients undergoing laparotomy between October 2018 and October 2019 were eligible. Patients undergoing surgery, where the surgeon was proficient in inserting wound infiltration catheters, were verbally consented by the anaesthetist and provided with a patient information sheet about the procedure. Catheters were placed at the end of the operation and an infusion of Ropivacaine 0.2% started. Patients were also started on either a bolus only morphine NCA or PCA device. The control group was selected from patients undergoing abdominal laparotomy having morphine NCA or PCA device as standard care.

Results

Twelve patients had wound infiltration catheters (WIC group) placed over this time. We selected a comparison group (NCA/PCA only group) of 14 patients.

On the first post-operative day (see chart below) seven of the wound infusion patients (58%) reported no pain, two patients (16%) reported mild pain and three patients (25%) reported moderate pain. For those in the comparison group four patients (28%) had no pain, five patients (36%) had mild pain and five patients (36%) had moderate pain. No patients in either group reported severe pain.

On the second post-operative day nine of the wound infiltration patients (75%) reported no pain, two patients (16%) reported mild pain and one patient (8%) reported moderate pain. For those in the comparison group five patients (28%) had no pain, five patients (36%) had mild pain and pain score data was missing for four patients.

The average (median) total opioid consumption for the wound infiltration group was 284.5 micrograms/kg (interquartile range 119-466.5 micrograms/kg) compared to 609 micrograms/kg in the comparison group (interquartile range 294-1140 micrograms/kg).

Discussion & Conclusion

Patients experienced less pain in the wound catheter group with lower pain scores than the comparison group on the first post-operative day. In addition, opioid consumption and opioid induced side effects were less when compared with those receiving an NCA or PCA alone. This pilot showed that wound infiltration catheters can be used safely and provide effective post-operative pain relief following open laparotomy surgery in children.

References:

1. Vintar, N. (2009). Wound catheter techniques for postoperative analgesia. *PERIODICUM BIOLOGORUM*, 111(2), pp.227-230.
2. Liu, S. (2006). Efficacy of continuous wound catheters delivering local anesthetic for postoperative analgesia: a quantitative and qualitative systematic review of randomized controlled trials. *Journal of the American College of Surgeons*, 203(6), pp.914-932.
3. AAGBI (2010). Management of Severe Local Anaesthetic Toxicity. [online] Association of Anaesthetists. Available at: <https://anaesthetists.org/Home/Resources-publications/Guidelines/Management-of-severe-local-anaesthetic-toxicity> [Accessed 2 Feb. 2020].
4. Dadure, C. (2005). Continuous peripheral nerve blocks in children. *Best Practice Research Clinical Anaesthesiology*, 19, pp.309-321.