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Introduction

A guideline for the management of pain following paediatric appendicectomy has been in use in our hospital for several years.

This recommended the prescription of regular oral analgesics (Paracetamol, Ibuprofen) and Patient Controlled Analgesia (PCA) or Nurse Controlled Analgesia (NCA) Intravenous Morphine for all children undergoing appendicectomy, regardless of surgical technique.

The PCA settings were: bolus 20 mcg/kg, 5-minute lockout, and an optional background infusion of 0.2 mls/hr.

For children unable to use PCA, NCA was used with settings: bolus 20 mcg/kg, lockout 15 minutes, background infusion 1-20 mcg/kg/hr.



Figure1- Pain rating scale

Methods

The Opera theatre record system was searched for paediatric (0-15 years) patients undergoing open or laparoscopic appendicectomy from January – July 2015.

39 patients were identified, ages as shown in figure 2. A detailed case note review was undertaken, and information regarding post-operative analgesic prescriptions and pain scores (figure 1) was obtained.

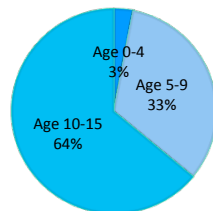


Figure 2- Patient Age

Figure 3- Analgesia Prescribed

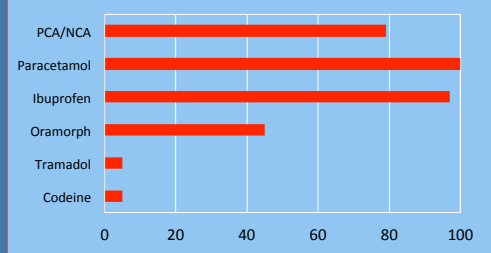
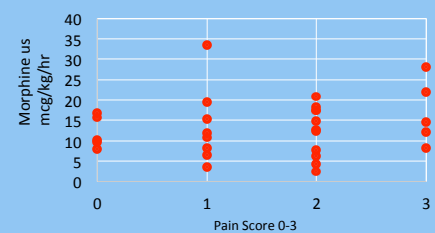


Figure 4- Morphine Use and PCA Duration



Results

- All children underwent laparoscopic procedures. 77% had a PCA prescribed for post-operative analgesia. There were no prescriptions for an NCA. Other analgesics were prescribed as shown in Figure 3.
- Of the 9 that did not have a PCA, 7 were aged greater than 14 and returned to adult wards.
- Of the children aged less than 8 years, 3 (30%) had a background infusion added.
- Duration of PCA use ranged from 9 to 56 hours with a mean duration of 22.5 hours and a median duration of 20 hours.
- Mean morphine consumption was 13 mcg/kg/hr [SD +/-7.4 mcg/kg/hr.] With a range of 0-33.6mcg/kg/hr. No correlation with pain scores (Figure 4).

Discussion

The results of this audit show little correlation between pain scores and duration of PCA use or morphine consumption. Additionally, morphine consumption is relatively low. This, along with the standard administration of oral paracetamol and ibuprofen post-operatively, suggests that an oral substitute might be equally efficacious without compromising the provision of analgesia.

Conclusion

In consultation with the paediatricians, we propose a change to post-operative analgesia for laparoscopic appendectomy to trial the prescription of oral opiate in addition to current prescription of paracetamol and ibuprofen, in the absence of risks factors for poor oral absorption e.g. peritonitis or likely ileus. PCA morphine would remain available as an option. A prospective review of this change will be required to ascertain efficacy of the suggested pain management strategy.