Obstetric Anaesthesia
Annual Scientific Meeting 2021 goes virtual
10-11 June 2021

Prevention and treatment of postpartum pruritus in women who have undergone caesarean sections with neuraxial opioids in a New Zealand secondary hospital

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Introduction

Caesarean sections are routinely performed under regional anaesthesia. Neuraxial morphine has become the gold standard for post-operative analgesia, but with unintended side effects such as pruritus, nausea, vomiting, and rarely, respiratory depression.[1] The mechanism of neuraxial opioid-induced pruritus is unclear, but it is a common side effect in the obstetric population, possibly due to an oestrogen effect.[1] It can cause considerable discomfort, particularly at the critical postpartum period when caring for an infant. A prospective study was undertaken in a secondary 400-bed hospital to determine the prevalence of opioid-induced pruritus and whether there were any effective preventative or treatment methods used.

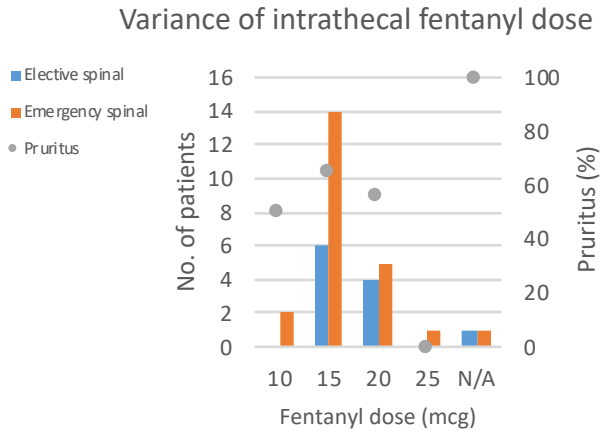
Methods

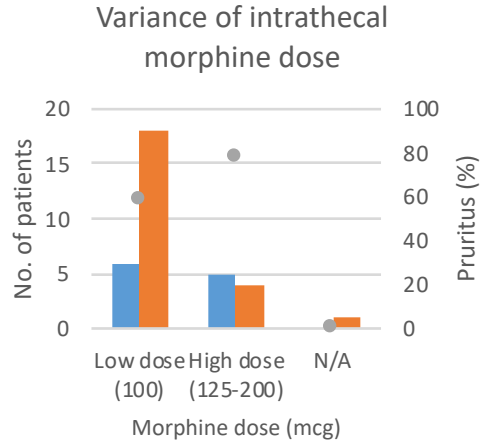
After local ethics approval, all caesarean sections from 29 July to 15 September 2019 were included. Acute and elective cases were included, without exclusion criteria. Patients were reviewed as part of the acute pain service round the following day and data collected from clinical notes and medication chart for mode of anaesthesia and use of antipruritic agents.

Results

Of the 51 caesarean sections in the study, 22% were elective and 78% acute. 67% were performed under spinal anaesthesia, 31% under epidural top up and 2% under epidural top up and general anaesthesia. They all received neuraxial fentanyl and 50 received neuraxial morphine. The overall prevalence of pruritus was 57%, and more common in elective operations (64% vs 55% emergency) and spinal anaesthesia (62% vs 47% epidural top up). In the spinal anaesthesia group, less pruritus was seen in patients that received intraoperative ondansetron (56% vs 67%) and with low dose (100mcg) intrathecal morphine (58% vs 78% high dose 125-200mcg). 45% of patients received treatment for pruritus, but only 48% of all pruritus patients had reached resolution by the next day. Treatment was varied, including naloxone, ondansetron and cyclizine, with no clearly effective options.

A literature review was performed as no clinical guidelines were available to benchmark against this study. The most effective preventative method was limitation of neuraxial opioid dose.[1] There was also some evidence for high dose droperidol and mixed results for ondansetron.[2] There was less evidence for treatment of pruritus, with trials suggesting mu opioid receptor antagonists may show benefit, but the optimal drug choice or dose unclear. Ondansetron may be an effective treatment but significant recurrence rates of pruritus were seen.[1+2]





Discussion

Pruritus is a common problem in patients who have undergone caesarean sections using neuraxial opioids, with a prevalence of 57% in this study. It is also a problem that commonly persists beyond the day of surgery. Unfortunately, the evidence is lacking for both prevention and treatment of this problem, but does support limiting neuraxial opioid dose, preventative ondansetron and treatment with opioid antagonism and ondansetron.

Limitations in this study included the lack of pruritus grading to determine severity and thus lack of patient-centred outcome, assuming that all post-operative pruritus was secondary to neuraxial opioid given that it is a broad, non-specific symptom, and that the study was small hence no meaningful data on pruritus treatment was found. Recommendations based on the available evidence and drug availability in New Zealand include standardising neuraxial opioid dose, pruritus prevention with pre-spinal ondansetron, and treatment with ondansetron and naloxone. Postnatal staff education has an important role as ondansetron is a more familiar drug and easier to administer but recurrence is more likely than with naloxone.

References

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2. Dominguez JE, Habib AS. Prophylaxis and treatment of the side effects of neuraxial morphine analgesia following cesarean delivery. Curr Opin Anaesthesiol, 2013; 26(3): 288-295.