Local differences in anaesthetic practice for perineal trauma repair and manual removal of placenta

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Introduction: Third & fourth degree obstetric anal sphincter injuries requiring surgical intervention occur in up to 2.9% of births [1], and manual removal of placenta (MROP) requiring surgical intervention similarly occurs in 1-3% of births [2]. Anaesthetic trainees learn how to provide anaesthesia for these procedures, but teaching is often focused on developing anaesthetic technique for Caesarean section during training. Spinal anaesthesia is commonly the anaesthetic of choice, but there is often wide variation in how anaesthesia is performed with regards to the choice of drugs, technique (e.g. volume of local anaesthetic used), and whether or not intrathecal opioid is used. Some evidence suggests that there is no difference in post-operative opioid use between patients that receive intrathecal opioid and opioid-free spinal anaesthetic for perineal trauma repair, but patients that receive intrathecal opioid experience significantly more side effects (pruritis and nausea) [3].

As a trainee, it is often difficult working with different supervising anaesthetists that have different personal practice, and not until working independently does one find the right recipe to suit the anaesthetist.

A survey was conducted to investigate differences in local practice with regards to anaesthetic procedure for perineal trauma repair and MROP. The results of the survey were used to create a template for trainees to work with to help develop their own clinical practice when performing regional anaesthesia for non-Caesarean section obstetric surgical procedures. Those surveyed were also questioned about their use of intrathecal opioid for these procedures as a consideration for post-operative pain relief.

Methods: A survey was created and circulated to anaesthetists that had achieved their IAOC (trainees, speciality doctors & consultants). Questions included what type of local anaesthetic the anaesthetist commonly uses, the volume of local anaesthetic used, what influences the volume of local anaesthetic used, and whether intrathecal opioid is used for post-operative pain relief. These questions were asked about anaesthetic practice for both perineal trauma repair and MROP.

Figure 1 - proportion of anaesthetists and local anaesthehtic choice for both 3rd & 4th degree perineal tear repair and MROP

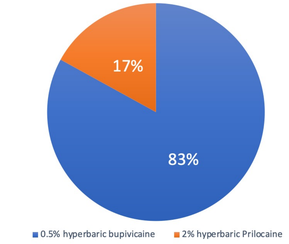


Figure 2 – box-whisker plot showing variation of volume of local anaesthetic used in subarachnoid blocks by anaesthetists for both perineal tear repair and MROP

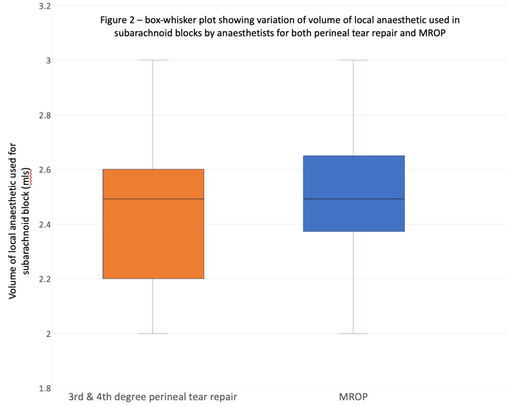


Figure 3 – Proportion of anaesthetists using intrathecal opioid for post operative pain relief



Results: Twelve responses were received in total. Most respondents (83%) tended to use 0.5% hyperbaric bupivacaine for both perineal trauma repair and MROP, with the remaining 17% opting to use 2% hyperbaric Prilocaine (figure 1). The volume of local anaesthetic used to provide anaesthesia for these procedures varied widely (figure 2):

- Perineal trauma repair: mean 2.43mls; median 2.5mls; mode 2.5mls; range 2-3mls
- MROP: mean 2.55mls; median 2.5mls; mode 2.6mls; range 2-3mls

Common influences for decision of volume of local anaesthetic used for spinal anaesthesia included patient height and predicted duration of surgery. With regards to the use of intrathecal opioids, 61.7% of anaesthetists always or often used diamorphine or fentanyl for perineal trauma repair, compared to 21.7% of anaesthetists using intrathecal opioid for MROP (figure 3).

Discussion: The results show that there is a wide range of volume of local anaesthetic that is used for both perineal trauma repair and MROP, with median volumes similar at 2.5mls, this average volume is slightly higher than recommendations from other centres. Interestingly, very few anaesthetists use or consider using shorter acting local anaesthetic for their spinal blocks. The common concern for this between anaesthetists was not wanting the anaesthetic to wear off prior to the end of surgery, which could also be the reason for slightly increased volume of local anaesthetic used for these procedures.

The results of this survey have been used to help educate trainees undergoing their initial obstetric competency training. They have also been used to highlight to the department the consideration of the use of shorter acting local anaesthetics for these procedures, and careful balance of the risks and benefits of the use of intrathecal opioids.

References

1. Royal College of Obstetricians and Gynaecologists '*The management of third- and fourth-degree perineal tears*' Green-top Guideline no.29, 2015
2. Perlman N et al '*Retained placenta after vaginal delivery: risk factors and management*' Int J Women's Health. 2019; 11: 527-534
3. Milton R et al '*Peri-operative analgesia for third degree perineal tear repair*' Int J Obstetric Anaesthesia, Vol 46, Supp 1, 103079, June 2021