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A One Year Analysis of Labour Epidural Top-up's and Failure Rates for Operative Intervention on Delivery Suite

J Bennett and V Jain
Queen Elizabeth Hospital – Gateshead Health NHS Foundation Trust

Introduction

- Regional Anaesthesia is the preferred choice of anaesthesia for parturient's requiring operative intervention.
- High failure rates and conversion to general anaesthesia (GA) can be associated with increased risk to parturient and fetus [1]
- These risks occur more commonly with epidural top up's [1]
- **The aim of this audit was to analyse labour epidural top up for operative intervention in the delivery suite, and assess conversion rates to GA against best practice standards, as outlined by the Royal College of Anaesthetists (RCOA).**

Methods

- Retrospective audit conducted from Badger electronic maternity records.
- **429** parturients received an epidural in 2020.
- **100** were eligible for analysis, requiring top up for operative intervention.
- Information on patient **demographics**, choice of **top up local anaesthetic** and **operative outcomes** were collected.

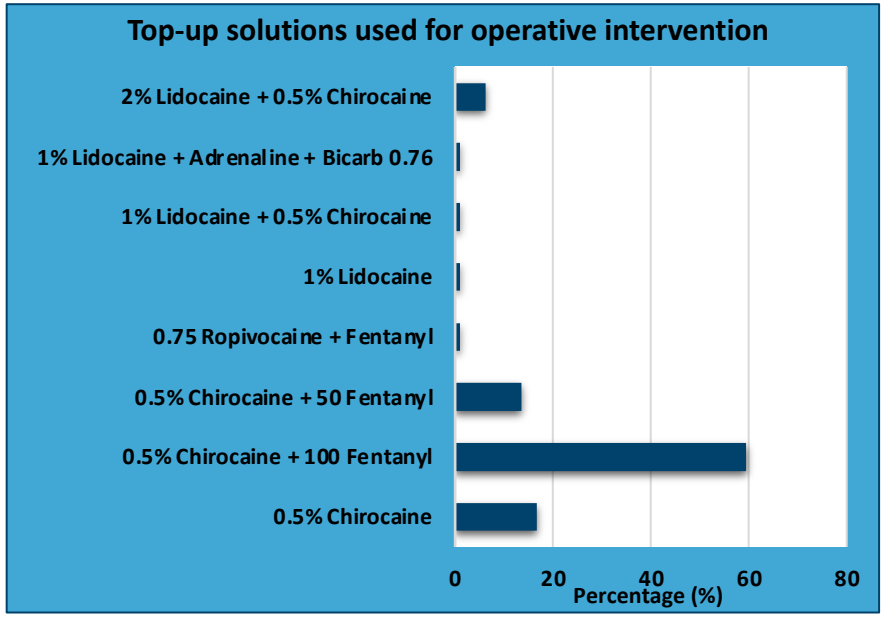
Results

- **56** women underwent top-up for CS, **41** for instrumental delivery, and **3** for a perineal repair.
- Mean parturient weight and BMI was 78.3Kg and 28 respectively.

Mean time between insertion and top-up	Mean time between top-up and knife-to-skin
8.5 hours	22 minutes

- **8%** of women **reported pain** during their procedure.
- All were offered supplementary analgesia, with only **2% requiring conversion to a GA**

- **89%** of anaesthetists used **0.5% Levobupivacaine** (Chirocaine), 81% supplementing with Fentanyl.
- **10%** of anaesthetists used **2% Lidocaine**, and **one** used **0.75% Ropivacaine.**



Discussion

- **Variability is demonstrated** amongst anaesthetist's choice in top up solution, the **most popular being 0.5% Levobupivacaine**; this finding being comparable to published research.[2]
- Rates of conversion to GA were analogous to the standards set out by the RCOA.
- **All GA conversions occurred following administration of 0.5% Levobupivacaine**; quoted in the literature as having a higher failure rate than other local anaesthetic solutions.
- **No significant difference was found in time between top and start of surgery with the choice of epidural top up mixture.**
- It is likely that other factors such as, theatre availability, transfer time etc, have impacted on time to surgery from their top-up.
- **An epidural top up box** with the standard **top up recipe** and **local Trust policy** would avoid variation in practise of selection of epidural top up mix.
  - This will be included in **Trainees induction pack.**
- Patients who experience intraoperative pain will continue to be offered a postnatal multidisciplinary birth reflection service.

References

1. Royal College of Anaesthetists. Raising The Standards: RCoA Quality Improvement Compendium. 4th Edition 2020. Section 7.6.https://rcoa.ac.uk/sites/default/files/documents/2020-08/21075%20RCoA%20Audit%20Recipe%20Book_Combined_Final_25.08.2020_0.pdf
2. Hillyard SG, Bate TE, Corcoran TB, et al. Extending epidural analgesia for emergency caesarean section: a meta-analysis. British Journal of Anaesthesia 2011;107(5):668 -678