Survey on practice of epidural top-up for Caesarean section among anaesthesiologists

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Introduction

- The ability to avoid general anaesthesia (GA) during delivery has safety benefits for both the mother and the baby.
- Previous work in our department suggested there was a conversion rate of about 37% when labour epidurals were topped up for caesarean delivery (CD)[1].
- We conducted a survey to determine the practitioner's management of an epidural top-up and their decision-making in how to salvage a poor epidural block, as these could have an impact on the need to convert to a GA.

Methods

- Following audit department approval, we conducted an online survey of anaesthetists in our department in July 2021.
- We asked questions to determine how the labour epidural was assessed prior to top up, what drugs were used, where the top-up would take place and how would the individual managed situations, where the block achieved, was suboptimal.

Results

- We received 29 completed surveys, giving a response rate of 37%, of which 41% were consultants and 51% were middle-grade doctors.
- 61% have at least one weekly session on labour ward.
- Pre- Top up: Adequacy of pain relief in labour, the timing of the last top-up, and the urgency of the surgery were factors that were considered when assessing a labour epidural. Also, Negative aspiration for blood/CSF (90%) and administering test dose (79%) were other common ways to test the epidural
- Operating theatre was the preferred location for top-up – 66% in Category 1 CD and 83% in Category 2/3 CD
- The Fast mix (66%) was the preferred anaesthetic for Category 1 CD where as L-bupivacaine (45%) and mix of L-bupivacaine and Lignocaine (31%) were preferred for Category 2/3 CD. Most respondents add fentanyl (80%) with 100 mcg being the most acceptable dose (60%)
- Cold (100%) and touch (75%) were the most common modalities used to test the block and 48% considered loss of cold sense at T4 level as adequate, whereas 20% considered loss of touch sense at T5 level as adequate for surgical anaesthesia.
- Troubleshooting: See details in the Graph
- Unilateral Block and Low block – Spinal/CSE 83% , repeat top-up 44% ; No Block - Spinal/CSE 93% . Almost 80% also considered GA in these scenarios.
- For pain during CD – although most respondents preferred GA either before (100%) or after delivery(95%), Alfentanil/ ENTONOX (80%) and Repeat Top-up (60%) were options considered.
- Most respondents (83%) agreed that a new local guidance for epidural top-up for CD including management suboptimal blocks was needed.

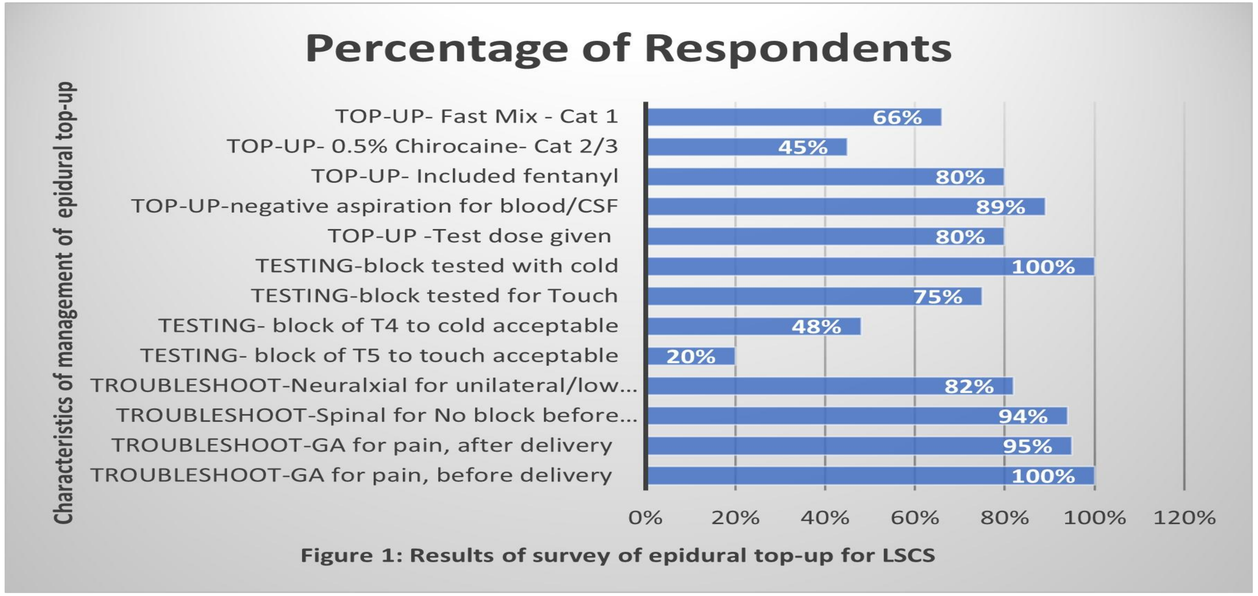


Figure 1: Results of survey of epidural top-up for LSCS

Discussion

- Our survey highlights the variation in clinical practice amongst individuals and the interplay of multiple factors which may affect decision-making when providing care for women who need unplanned operative delivery.
- The conversion rate in our department may in part be due to differences in acceptable block height compared with the literature [2].
- Our survey results correlate with previous work undertaken in this area[2].
- Lack of clear evidence-based guidelines for practice for epidural top-ups for CD is the most likely reason for such variability in clinical practice.
- A cognitive aid and simulation training may help in better decision making in an event of suboptimal block after epidural top-up

References

1. Ahmed G, Liu YM. Failed epidural top ups for caesarean section: reasons and timing for conversion to general anaesthesia. Presented at EAOAG Meeting 2018.
2. Desai N, Carvalho B. Conversion of labour epidural analgesia to surgical anaesthesia for emergency intrapartum Caesarean section. BJAEducaon,2019.20(1):26–31