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Caesarean section anaesthesia: audit of technique and failure rate in a tertiary obstetric hospital

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Introduction

The benefits of regional anaesthesia (RA) compared to general anaesthesia (GA) for caesarean delivery (CD) are multi-faceted, not least in reducing the impact on maternal and neonatal mortality. Ineffective RA for CD may result in supplementary analgesia or conversion to GA. This audit evaluated our service against the set standards published by the RCOA in their audit recipe book[1].

Methods

We audited all patients having a CD at our institution during February 2020. Data included category of CD, anaesthetic technique, conversion rate, additional analgesia administered, rationale for techniques and grade of both anaesthetist and surgeon.

Results

178 patients were included. Primary GA was performed in 8% of cases. RA was attempted in 92%, although 6.7% required conversion to GA. Intra-operative conversion occurred in 4 patients (2.2%). 92% of RA to GA conversions occurred out-of-hours. 9.5% of patients complained of pain during CD; the majority were managed with simple analgesia and/or IV opioid. 76% of reported pain was when a junior anaesthetist had performed the RA. 91% of category 1 CD patients were anaesthetised by junior anaesthetists and the primary surgeon was a trainee 100% of the time.

Table: Anaesthesia for caesarean delivery

	Cat 4 (%)	Cat 1-3 (%)	Cat 1 (%)
CD carried out with RA	94 (**>95%**)	81 (**>85%**)	9 (**>50%**)
Pain during CD	8 (**<5%**)	11 (**<15%**)	0 (**<20%**)
RA to GA conversion	1 (**<1%**)	12 (**<5%**)	9 (**<15%**)

RCOA Standards shown bold as (%)

Discussion

This audit suggests we fell short of best practice, however it highlights the balance of risk vs benefit that faces obstetric anaesthetists. RCOA standards state 50% of category 1 CD should be carried out under RA, up to 19% of patients may experience pain and 14% may undergo conversion to GA. Most category 1 CD in this audit had a GA and occurred out-of-hours. Although this falls short of the RCOA standard, we had no incidence of pain, intra-operative conversion, postnatal complaints or clinical incidents secondary to GA. A question often asked but somehow difficult to answer is this; Is the risk of GA for a category 1 CD less than the risk of inflicting distress as a result of intra-operative pain and/or conversion, and is the risk of a GA before surgery not less than the risk of converting during? Efforts to promote RA within the obstetric multi-disciplinary team, to ensure trainees regularly check efficacy of epidurals and improve management of patient's expectations have been made. The use of 2% lidocaine/adrenaline for epidural top-up has been introduced and recent data show a fall in our GA rates to 2.5%[2]. All complaints of pain were taken seriously and it is reassuring to know the large majority were managed with paracetamol, Entonox and/or IV opioid.

References

1. The Royal College of Anaesthetists. Raising the standard: a compendium of audit recipes. 3rd Edition 2012.

2. Bhatia K, Columb M, Belway A et al. The effect of COVID-19 on general anaesthesia rates for caesarean section. A cross-sectional analysis of six hospitals in the North-West of England. Anaesthesia.2020 Oct 18. doi: 10.1111/anae.15313. Epub ahead of print. PMID:33073371.