Rapid epidural top-up for emergency caesarean section: An impact on the rate of general anaesthesia

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Introduction

- Conversion of labour epidural analgesia to provide surgical anaesthesia for caesarean section (CS) is common.

- National data suggest that 22-25% of emergency CS are carried out under epidural top up.

- Increased use of regional techniques has contributed to the decline in obstetric anaesthesia related deaths.
Introduction

- 2 deaths related to general anaesthesia.
- Strategies to avoid general anaesthesia are favourable.
The use of a lidocaine/adrenaline/bicarbonate epidural top up solution halves the onset time to a surgical block compared with levobupivacaine.
Methods

- Lidocaine/bicarbonate/adrenaline solution introduced as standard epidural top up mixture for CS in 2010.

- Recipe
  - 20 mls 2 % lidocaine
  - Add 2 mls 8.4% sodium bicarbonate
  - Shake and then discard 2 mls
  - Add 0.1 ml of 1:1000 adrenaline

- Final mixture of 1.8% lidocaine, 1:200,000 adrenaline, 0.76% bicarbonate.
Methods

Observational study.

Retrospective analysis of data.

Compared rates of general anaesthesia for emergency caesarean section:

- 2010-2011: lidocaine/bicarbonate/adrenaline.
- 2005-2009: 0.5% bupivacaine.
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Monthly rates (%) of emergency caesarean sections performed under GA or epidural top up
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### Results

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Discussion

- Reduction in onset time to achieve surgical anaesthesia.

- Faster onset of block is favourable in women with a working epidural to avoid the need for general anaesthesia.

- We observed a 22% reduction in GA for emergency CS following introduction of lidocaine/bicarbonate/adrenaline.

- Observational study with confounding factors.

- Continue to audit our own data to see if this reduction is sustained.

- Recent debate as to optimal solution for top up. A double-blind randomised controlled trial may help address the question.