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.

Introduction

- The use of a lidocaine/adrenaline/bicarbonate epidural top up solution halves the onset time to a surgical block compared with

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Epidural lidocaine-bicarbonate-adrenaline vs levobupivacaine for emergency Caesarean section: a randomised controlled trial*

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Summary

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

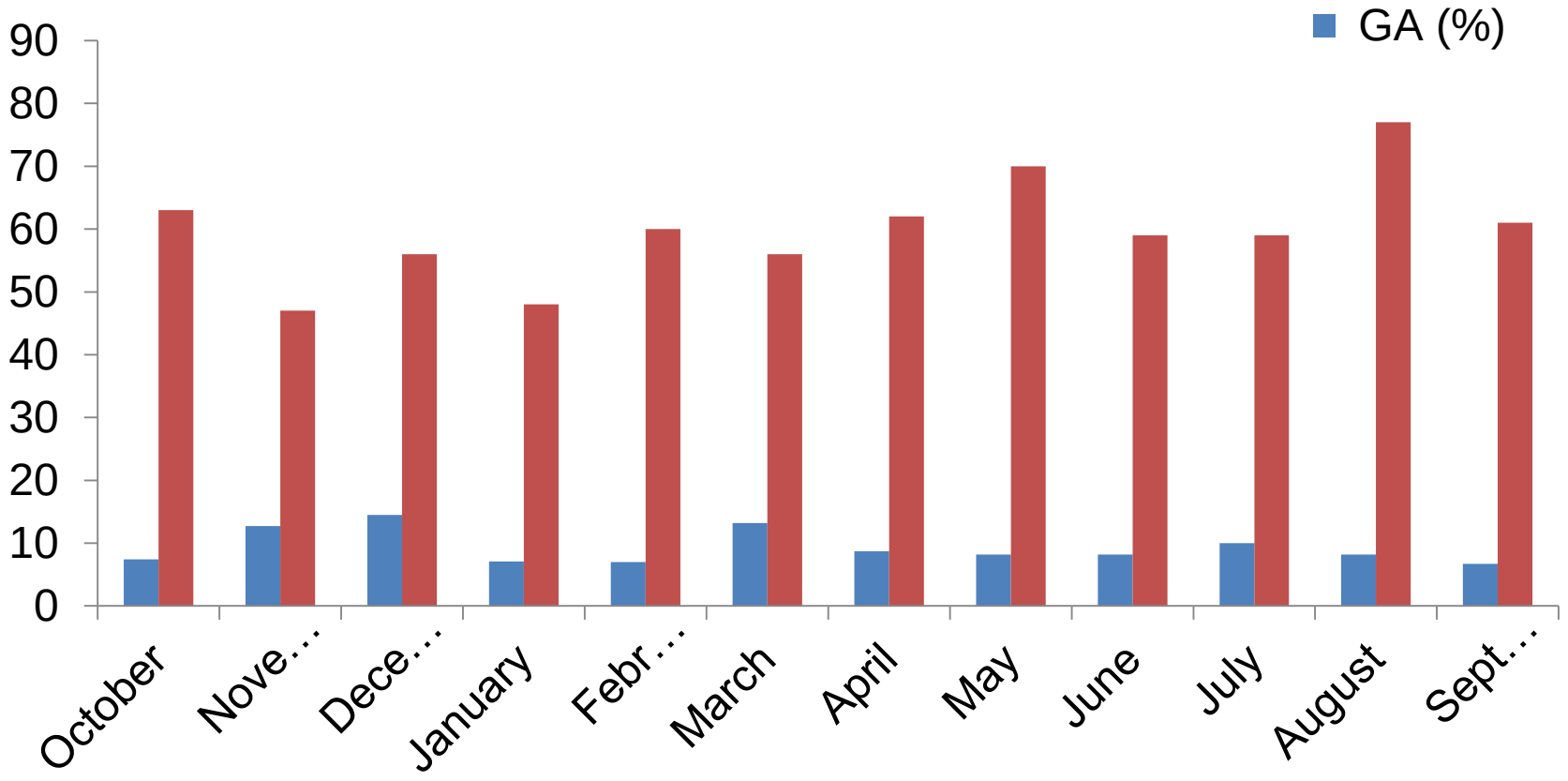
Observational study.

Retrospective analysis of data.

Compared rates of general anaesthesia for emergency caesarean section:

- 2010-2011:lidocaine/bicarbonate/adrenaline.
- 2005-2009: 0.5% bupivicaine.

Monthly rates (%) of emergency caesarean sections performed under GA or epidural top up



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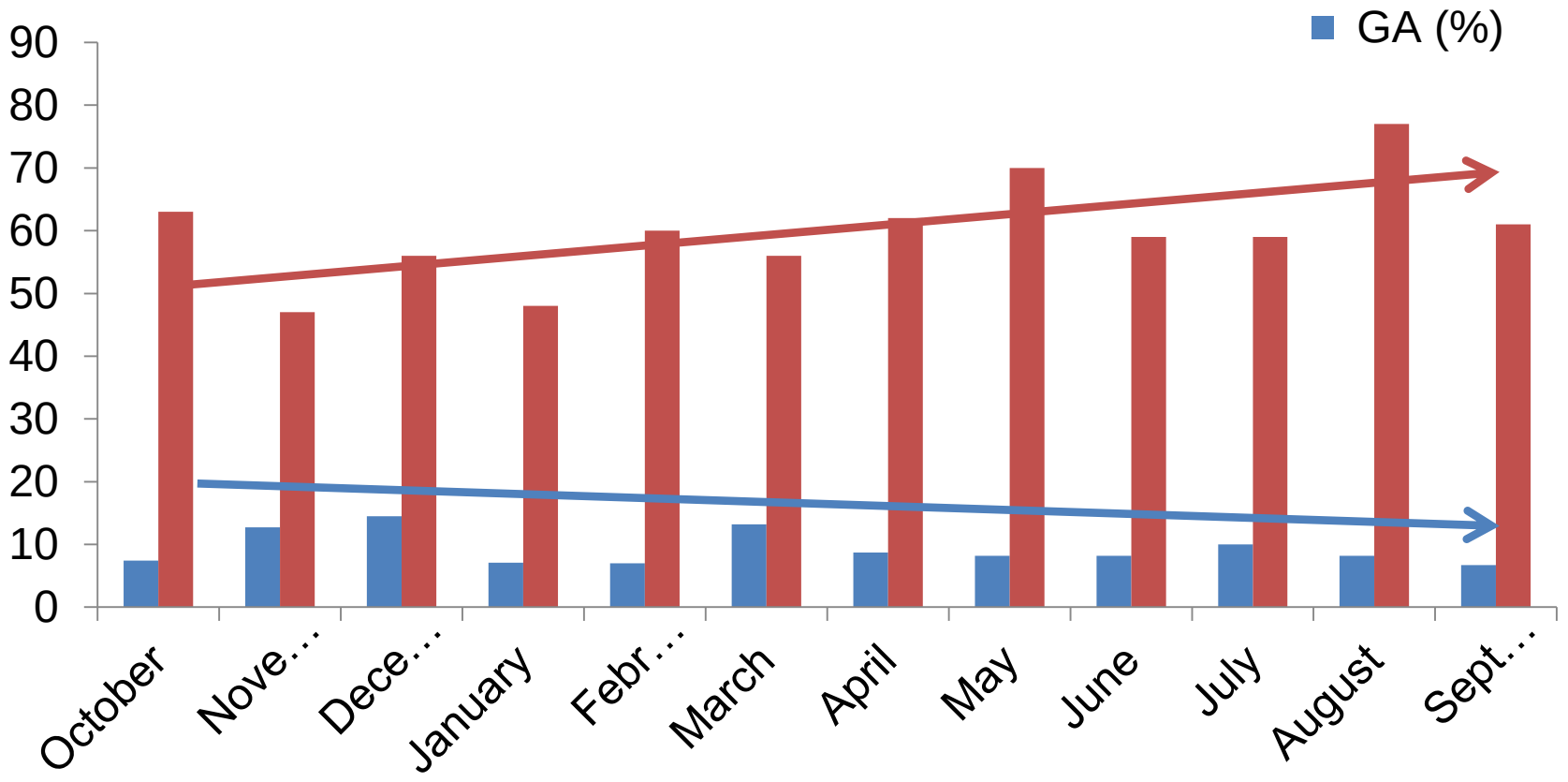

Results

	4 year average (2005-2009) prior to introduction of rapid mixture	2010-2011 following introduction of rapid mixture	Relative change for 2010-2011 compared to previous 4 years
All categories of CS under GA	8.5%	5.8%	+0.32
Emergency CS under GA	11.8%	9.2%	-0.22
Emergency CS under epidural top up	47%	62%	+0.32

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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.

References

- 1 CMACE. Saving Mothers' Lives 2006-2008. The Eighth Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG 2011;118 (Suppl 1): 102-8.

- 2. Allam J, Malhotra S, Hemingway C, Yentis SM. Epidural lidocaine-bicarbonate-adrenaline vs levobupivacaine for emergency Caesarean section: a randomised controlled trial*. Anaesthesia* 2008; 63:243 -9