



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

\* Corresponding author.

**Introduction:** The optimal protocol for epidurals in labour remains unknown. Our institution aims to introduce a programmed intermittent epidural bolus (PIEB) protocol. We prospectively reviewed our PCEA (10mL bolus, 20 min lockout, no background infusion, 0.1% bupivacaine and fentanyl 2 µg/mL) service for labour to see if there was a need for improvement and change.

**Methods:** After receiving hospital audit committee approval, we collected prospective data over two months including patient demographics, cervical dilatation, maternal satisfaction scores, breakthrough pain, need for anaesthetic troubleshooting, degree of mobility, mode of delivery and whether women would like an automatic top-up.

**Results:** Forty-nine women with a mean age of 32 ± 4.9 years and body mass index of 25 ± 5.8 kg/m<sup>2</sup> were included. Epidurals were sited by trainee anaesthetists in 93% of cases at an mean cervical dilatation of 3.8 ± 2.1 cm with only 8.5% epidurals sited at >7 cm. 44.9% of women said the epidural wore off at some point. An anaesthetist was asked to troubleshoot the epidural in 32.7% but only 8.5% of epidurals were re-sited. Subjectively, 51% patients reported that they were not mobile. Overall, 85% women scored their satisfaction as ≥7/10 and 91.8% reported they would have an epidural again. 26.5% of women had a spontaneous vaginal delivery, 36.7% had an instrumental delivery and 34.7% proceeded to caesarean section.

**Discussion:** Our epidural satisfaction rate is below the Royal College of Anaesthetists' standard (98%) suggesting a need for improvement.<sup>1</sup> We have a high degree of breakthrough pain with need for anaesthetic troubleshooting perhaps due to a high number (93%) of trainee operators<sup>2</sup> and need for anaesthetic administered top-ups (14%).<sup>3</sup> Our re-site rate meets the standard of <15%.<sup>1</sup> Motor block occurs in over half. Operative vaginal deliveries are high at 36.7% compared with UK rates of between 10 and 13%,<sup>4</sup> possibly explained by our high-risk patient cohort. With 63% women reporting they would like an automatic top up, the introduction of PIEB has the potential to improve breakthrough pain, maternal satisfaction, motor block and instrumental delivery rate.<sup>5</sup> A re-audit is planned using a PIEB protocol to allow comparison against PCEA.

## References

- [1]. RCoA Quality improvement compendium 4th Edition 2020 Chapter 7.4: 248-9 [https://www.rcoa.ac.uk/sites/default/files/documents/2020-08/21075%20RCoA%20Audit%20Recipe%20Book\\_Combined\\_Final\\_25.08.2020\\_0.pdf](https://www.rcoa.ac.uk/sites/default/files/documents/2020-08/21075%20RCoA%20Audit%20Recipe%20Book_Combined_Final_25.08.2020_0.pdf).
- [2]. Agaram R, Douglas MJ, McTaggart RA, Gunka V. Inadequate pain relief with labor epidurals: a multivariate analysis of associated factors. *Int J Obstet Anesth* 2009;18:10-14.
- [3]. Clivatti J, Siddiqui N, Goel A, et al. Quality of labour analgesia and maternal satisfaction at a tertiary care teaching hospital: a prospective observational study. *Can J Anaesth* 2013;60:787-95.
- [4]. Green-top Guideline No. 26 Operative vaginal delivery. Royal College of Obstetricians and Gynaecologists 2011 [https://www.rcog.org.uk/globalassets/documents/guidelines/gtg\\_26.pdf](https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_26.pdf).
- [5]. Xu J, Zhou J, Xiao H et al. A systematic review and meta-analysis comparing programmed intermittent bolus and continuous infusion as the background infusion for parturient-controlled epidural analgesia. *Sci Rep* 2019;9:2583.

doi:10.1016/j.ijoa.2021.103035

## P.38 Impact of COVID-19 pandemic on anaesthetic technique for caesarean section

J. Kazda\*, A. Jacob

Anaesthetics, University Hospitals of Leicester, Leicester, UK

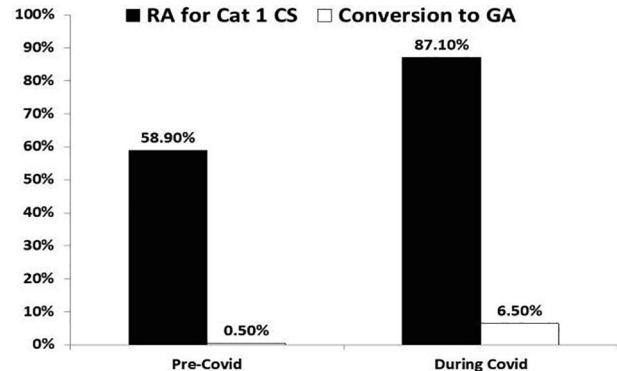
\* Corresponding author.

**Introduction:** COVID-19 is an international public health emergency leading to dramatic shifts in health care. The main challenges for

obstetric anaesthesia have been rapidly changing theatre pathways, measures implemented to prevent spread of infection and use of personal protective equipment (PPE).<sup>1</sup> We investigated how the pandemic and resulting measures influenced the choice of anaesthetic technique for caesarean section (CS) and compared practice to RCOA standards and pre-COVID performance at the University Hospitals of Leicester (UHL).<sup>2</sup>

**Methods:** Data were collected retrospectively from the Euroking E3 database from both maternity units in UHL covering the period from 30 March 2020 to 18 May 2020 for all women undergoing CS. Findings were compared to RCOA standards for the proportion of regional anaesthesia (RA), conversion rates and targets for decision-to-delivery time. Results were also compared to a recent audit of local practice enabling us to directly identify the impact of the pandemic.

**Results:** Data from 395 patients were included. 97.5% of CS were performed under RA. Although there was an increase in the proportion of category 1 CS done under RA (87.1%), there was also an increase in the RA to general conversion rate (6.5%). Mean decision-to-delivery time was 28 min with 68% of deliveries done within the recommended 30 min interval. No significant changes in anaesthetic technique or conversion rates appeared in categories 2-4 CS.



**Figure:** Regional anaesthesia conversion for category 1 CS

**Discussion:** An unchanged proportion of RA in categories 2-4 CS reflected adherence to RCOA standards and widespread preference of RA. In the pandemic, the upward trend in RA for category 1 CS was attributed to early active encouragement of epidurals for labour and choosing regional as a default option unless contraindicated to minimise delays due to PPE. Failure to meet decision-to-delivery time standards is largely due to the pandemic-induced changes in theatre pathways and their rapid involvement at the beginning of the pandemic. No short-term clinical impact on the mothers or the neonates was noted during the audit period.

## References

- [1]. Bampoe S, Odor PM, Lucas DN. Novel coronavirus SARS-CoV-2 and COVID-19. Practice recommendations for obstetric anaesthesia: what we have learned thus far. *Int J Obstet Anesth* 2020;43:1-8.
- [2]. RCOG. Coronavirus (COVID-19) Infection And Pregnancy: 2020. <https://www.rcog.org.uk/coronavirus-pregnancy..>

doi:10.1016/j.ijoa.2021.103036

## P.39 Caesarean section anaesthesia: Audit of technique and failure rate in a tertiary obstetric hospital

G.G. Garvey, P.S. Sturgess