

Auditing response times for category-1 caesareans at a new tertiary service; does a split-level maternity service support timely delivery?

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Introduction

Category 1 caesarean sections (referred to as Code Green in Victoria) are conducted in the face of an urgent threat to the life or the health of the woman or fetus. Prior to the opening of the Joan Kirner Women's and Children's Hospital in 2019, the birth suite at Western Health was co-located on the same floor as the theatre suite. With the new build, the available foot-print forced births suite and theatres to be on separate floors of the building. With the recognition that time likely influences outcomes in urgent situations, dedicated emergency lifts with override capacity were incorporated in design. We were keen to ensure appropriate response times in the new service.

Methods

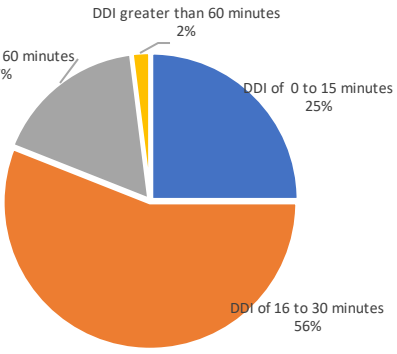
This was a retrospective audit over 12 months of the outcomes for 'code green' caesareans'. Cases were identified from a prospectively compiled list of 'Code Green' emergency calls and crosschecked against the birth register. Patient details and outcomes were obtained from the Birthing Outcome System (BOS) database and the clinical record.

Results

One hundred sixty-three Code Greens emergency calls were identified over 12 months; 23 (14%) were 'stood down' as the emergency indication dissipated. For the remaining 140 caesareans, the mean decision to delivery interval (DDI) was 24.3 minutes.

Results

- 25% (35/140) had a DDI of 0 to 15 minutes,
 - 56% (78/140) had a DDI of 16 to 30 minutes,
 - 17% (24/140) had a DDI of 31 to 60 minutes
 - Only 2% had a DDI greater than 60 minutes.
- Of all Code Green calls, 149 neonates (91%) had 5-minute Apgar scores ≥ 7 , 13 (8%) resulted in neonatal code blue calls and 51 (31%) babies were transferred to special care nursery (SCN). Overall 23.3% of babies were acidotic at delivery (cord blood pH ≤ 7.2). The average DDI for babies with pH ≤ 7.2 was 20.4 minutes whilst DDI for pH > 7.2 was 24.8. 23% of babies born after a code green was stood down were transferred to SCN and 13% had pH ≤ 7.2 .
- 53 of 163 (32%) of caesareans were performed under general anaesthetic, 26% had an epidural top up and 26% received a spinal regional anaesthetic.



Discussion

A mean DDI below 30 minutes is reassuring and consistent with best practice (1). Despite the need to transfer to theatre via a lift, 81% of births were completed within 30 minutes. Almost a quarter of neonates born following a Code Green emergency require special care nursery admission and almost a third of mothers underwent general anaesthetic highlighting the potential morbidity of this urgent delivery group. Ongoing audit to ensure maintenance of this standard are planned.

References

(1) South Australia. Dept. of Health. *Category One Caesarean Section: Standards for Management in South Australia 2018 Clinical Directive*. [ONLINE] Available at: https://www.sahealth.sa.gov.au/wps/wcm/connect/309246804f324d018a0c0ff080fa6802e/Category+1+Caesarean+Section_CD_v2_0.pdf?MODAJIPERES&CACHID=ROOTWORKSPACE-309246804f324d018a0c0ff080fa6802e-niRMdEG. [Accessed 30 October 2020]. Government of South Australia.