

Are sweeping efforts to reduce primary CD rates associated with an increase in maternal or neonatal AEs?

Not measurably, according to this analysis of cross-sectional data from 56 hospitals with more than 119,000 deliveries as part of the California Maternal Quality Care Collaborative (CMQCC) statewide effort to reduce primary cesarean delivery (CD) rates. No significant difference in maternal or neonatal adverse events (AEs) were reported before (2015), compared with after (2017), implementation of the program, suggesting that introduction of this quality improvement bundle did not measurably compromise patient safety.

FAST TRACK

California's statewide collaborative to reduce NTSV CD included education on ACOG/SMFM guidelines, introduction of a toolkit, increased labor support, and shared best practices

Main EK, Chang SC, Cape V, et al. Safety assessment of a large-scale improvement collaborative to reduce nulliparous cesarean delivery rates. Obstet Gynecol. 2019;133:613-623.

EXPERT COMMENTARY

Errol R. Norwitz, MD, PhD, MBA, is Louis E. Phaneuf Professor of Obstetrics & Gynecology, Tufts University School of Medicine, and Chief Scientific Officer and Chair, Department of Obstetrics & Gynecology, Tufts Medical Center, Boston, Massachusetts. Dr. Norwitz serves on the OBG MANAGEMENT Board of Editors.

Ashley T. Peterson, MD, is Fellow, Tufts University School of Medicine, Division of Maternal Fetal Medicine, Department of Obstetrics & Gynecology, Tufts Medical Center.

Cesarean delivery can be lifesaving for both mother and infant. When compared with successful vaginal delivery, however, CD is associated with higher maternal complication rates (includ-

ing excessive blood loss requiring blood product transfusion, infectious morbidity, and venous thromboembolic events), longer hospital length of stay, and higher cost. While the optimal CD rate is not well defined, it is generally accepted that the CD rate in the United States is excessively high. As such, efforts to reduce the CD rate should be encouraged, but not at the expense of patient safety.

Details about the study

In keeping with the dictum that the most important CD to prevent is the first one, the California Maternal Quality Care Collaborative (CMQCC) in 2016 introduced a large-scale quality improvement project designed to reduce nulliparous, term, singleton, vertex (NTSV) CDs across the state. This bundle included education around joint guidelines issued by the American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine on reducing primary CDs,¹ introduction of a CMQCC

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WHAT THIS EVIDENCE MEANS FOR PRACTICE

All reasonable efforts to decrease the CD rate in the United States should be encouraged, with particular attention paid to avoiding the first CD. However, this should not be done at the expense of patient safety. Large-scale quality improvement initiatives, similar to CMQCC efforts in California in 2016, appear to be one such strategy. Other successful strategies may include, for example, routine induction of labor for all low-risk nulliparous women at 39 weeks' gestation.⁷ The current report suggests that implementing a large-scale quality improvement initiative to reduce the primary CD rate can likely be done safely, without a significant increase in maternal or neonatal morbidity.

toolkit, increased nursing labor support, and monthly meetings to share best practices across all collaborating sites. The NTSV CD rate in these hospitals did decrease from 29.3% in 2015 to 25.0% in 2017 (adjusted odds ratio, 0.76; 95% confidence interval, 0.73–0.78).

Whether or not implementation of the bundle resulted in an inappropriate delay in indicated CDs and, as such, in an increase in maternal or neonatal morbidity is not known. To address this issue, Main and colleagues collected cross-sectional data from more than 50 hospitals with more than 119,000 deliveries throughout California and measured rates of chorioamnionitis, blood transfusions, third- or fourth-degree perineal lacerations, operative vaginal delivery, severe unexpected newborn complications, and 5-minute Apgar scores of less than 5.

None of the 6 safety measures showed any difference when comparing 2017 (after implementation of the CMQCC bundle) to 2015 (before implementation), suggesting that patient safety was not compromised significantly.

Study strengths and weaknesses

Strengths of this study include its large sample size and multicenter design with inclusion of a variety of collaborating hospitals. Earlier studies examining the effect of standardized protocols to reduce CD rates have been largely underpowered and conducted at single institutions.²⁻⁶ Moreover, results have been mixed, with some studies reporting an increase in maternal/neonatal adverse events,²⁻⁴ while others suggesting an improvement in select newborn quality outcome metrics.⁵ The current study provides reassurance to providers and institutions employing strategies to reduce NTSV CD rates that such efforts are safe.

This study has several limitations. Data collection relied on birth certificate and discharge diagnoses without a robust quality audit. As such, ascertainment bias, random error, and undercounting cannot be excluded. Although the population was heterogeneous, most women had more than a high school education and private insurance, and only 1 in 5 were obese. Whether these findings are generalizable to other areas within the United States is not known. ●

FAST TRACK

The NTSV CD rate decreased from 29.3% to 25% without significantly increasing 6 patient safety measures

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