

Excerpts from the World Medical Literature: Obstetrics



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Osteen SJ, Yang Z, Mckinzie AH, et al. Long-term childhood outcomes for babies born at term who were exposed to antenatal corticosteroids [e-pub ahead of print]. *Am J Obstet Gynecol.* <https://doi.org/10.1016/j.ajog.2022.07.026>.

Summary: The authors of this study contend that because many women who receive antenatal corticosteroids (ACS) for threatened preterm labour go on to deliver at term, long-term outcomes should be evaluated for term-born infants who were exposed to ACS in utero. Thus, they conducted a retrospective cohort study of term-born (>37 weeks gestation) children ≥ 5 years of age at the time of the study. The outcomes of children born to women who received ACS for threatened preterm labour were compared with those of children whose mothers were also evaluated for threatened preterm labour but did not receive ACS.

Of 3556 children included in the study, 629 (17.6%) received ACS injections (all betamethasone) and 2927 (82.3%) were the controls whose mothers did not get ACS. The children exposed to ACS had no differences with respect to the diagnoses of asthma, attention deficit disorder, or developmental delay ($P = 0.47$, $P = 0.54$, $P = 0.10$, respectively). The odds of the child's weight percentile being <10% was higher for children exposed to ACS (odds ratio [OR] 2.00; 95% CI 1.22–3.25). Therefore, the authors concluded that babies born at term who were exposed to ACS in utero may have increased odds of being in a lower growth percentile than those not exposed; however, children exposed to ACS do not appear to be at greater risk of other adverse outcomes.

Comment: This is an important paper that adds more weight to the evidence that ACS, although potentially

lifesaving, may also cause harm. My previous research group from Toronto, led by Dr. Nir Melamed, reported similar findings using data from Ontario's Better Outcomes Registry & Network (BORN), which was successfully linked with Institute for Clinical Evaluative Sciences (ICES) data. The study, published in *BMJ Open*, found an association among term infants between the exposure to ACS during pregnancy and health care use during childhood in relation to suspected neurocognitive and neurosensory disorders.¹ This all serves to illustrate the importance of the ongoing Single Dose Antenatal Corticosteroids for Women at Risk of Preterm Birth trial led by Dr. Sarah MacDonald at McMaster University in upholding our oath of *primum non nocere*.

REFERENCE

1. Melamed N, Asztalos E, Murphy K, et al. Neurodevelopmental disorders among term infants exposed to antenatal corticosteroids during pregnancy: a population-based study. *BMJ Open* 2019;9:e031197.

Zare S, Sufizadeh N, Rezagholi P. Termination of pregnancy due to COVID-19 induced damage to the placenta: a case report. *Caspian J Intern Med* 2022;13(Suppl 3):295–8.

Summary: The effect of COVID-19 infection on maternal and neonatal outcomes is a growing concern of neonatal

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specialists and gynaecologists. The unusual case reported here involved a 33-year-old patient at 33 weeks gestation who presented with shortness of breath and cough. A polymerase chain reaction (PCR) test and CT scan confirmed a diagnosis of COVID-19. After an abnormal test of placental function, the physicians decided to terminate pregnancy, and thus the patient underwent emergency cesarean delivery and the infant was born weighing 2700 g and had an Apgar score of 10. Placental pathology confirmed widespread vascular thrombosis. Although the common manifestations of COVID-19 in pregnancy include fever, cough, and muscle pain, pregnant people with COVID-19 should immediately have an ultrasound and other tests to diagnose placental thrombosis.

Comment: I make no apologies for choosing a case report to highlight an issue, even one from a more obscure journal. A mentor of mine once told me, “There is something to learn from everyone, so always have an open mind.” Obscure, perhaps, but close to home! I recently managed a low-risk multigravid patient who, after a very mild case of COVID-19, experienced acute placental failure. This complication was only detected because of an astute colleague’s assessment of a cerebroplacental ratio (CPR). We all teased him that there was no real reason to measure the CPR, as at that time there was no evidence of growth restriction at all! Fortunately for this little baby, the CPR result was the only sign of impending fetal compromise, which revealed itself subsequently.

Zafarmand MH, Goossens SMTA, Tajik P, et al. Twin Birth Study Collaborative Group. Planned cesarean or planned vaginal delivery for twins: secondary analysis of randomized controlled trial. *Ultrasound Obstet Gynecol* 2021;57:582–91.

Summary: The authors of this study sought to evaluate whether there is a differential benefit of planned cesarean delivery (CD) over planned vaginal delivery (VD) in women with a twin pregnancy and the first twin in cephalic presentation, based on pre-specified baseline maternal and pregnancy characteristics and/or gestational age (GA) at delivery. This was a secondary analysis of the Twin Birth Study, which included 2804 women between 32⁰ and 38⁶ weeks gestation at 106 centres in 25 countries. The women had been randomly assigned to either planned CD or planned VD. The main outcome measure was composite adverse perinatal outcome, defined as the occurrence of perinatal mortality or serious neonatal morbidity in at least one twin. In this analysis, separate logistic regression models were developed for each characteristic to model the composite adverse perinatal outcome as a

function of that characteristic, planned delivery mode, and the interaction between these 2 factors. In addition, multivariable logistic regression analysis with backward variable elimination was performed separately in each arm of the trial. The association between planned mode of delivery and composite adverse perinatal outcomes by GA at delivery was analyzed using logistic regression.

Of the 2804 women initially included in the study, 1391 ultimately comprised each study arm. None of the studied baseline characteristics were associated with a differential benefit of planned CD over planned VD in terms of the primary composite outcome. The GA at delivery was differentially associated with the composite adverse perinatal outcome in the treatment arms (P value for interaction < 0.001). Among infants delivered between 32⁰ and 36⁶ weeks gestation, there was a trend towards a lower rate of composite adverse perinatal outcome in the planned VD group compared with the planned CD group (29 [2.2%] vs. 48 [3.6%] cases; adjusted OR 0.62; 95% CI 0.37–1.03). In infants delivered at or after 37⁰ weeks gestation, planned VD was associated with a significantly higher rate of the composite adverse perinatal outcome compared with planned CD (23 [1.5%] vs. 10 [0.7%] cases; OR 2.25; 95% CI 1.06–4.77). The authors, therefore, concluded that the outcomes of planned delivery for twin pregnancies with the first twin in cephalic presentation may differ depending on GA at delivery and mode of delivery. At 32–37 weeks gestation, planned VD seems to be favourable, whereas planned CD might be safer starting at around 37 weeks. The absolute risks of adverse perinatal outcomes at term are low and must be weighed against the increased maternal risks associated with CD.

Comment: I hope the editors and readers will forgive me quoting a paper in which I too am an author, but I think it’s important. We found that planned CD did not significantly decrease or increase the risk of fetal or neonatal death or serious neonatal morbidity when compared with planned VD for twin pregnancies between 32⁰ and 38⁶ weeks gestation with the first twin in the cephalic presentation.¹ So, did the original analyses of the Twin Birth Study get it wrong? Possibly, but I don’t think so. I still prefer the simplicity of a randomized controlled trial analysis to the “backward variable elimination and multivariate logistic regression” used in the study. Nevertheless, it is super smart, and we must keep an open mind. So, what does this mean?

First, there is the gratifying finding that at the gestational age at which most twins are born (32–37 weeks), the outcomes of planned vaginal birth are actually better than

planned cesarean—something that was not seen in the original study. This makes perfect sense considering the vulnerability of the twins' preterm lungs to respiratory distress syndrome when born by elective CD. Second, *if* correct, the study highlights the importance of adhering to universal guidelines, which strongly recommend delivery of dichorionic twins before 37 weeks and monochorionic twins before 36 weeks.² As long as we adhere to these guidelines, I think we can rest easy in advising our patients that planned vaginal birth of twins is the best option for all.

REFERENCES

1. Barrett JF, Hannah ME, Hutton EK, et al.; Twin Birth Study Collaborative Group. A randomized trial of planned cesarean or vaginal delivery for twin pregnancy. *N Engl J Med*. 2013 Oct 3;369(14):1295-305. doi: [10.1056/NEJMoa1214939](https://doi.org/10.1056/NEJMoa1214939). Erratum in: *N Engl J Med*. 2013 Dec 12;369(24):2364.
2. Mei-Dan E, Jain V, Melamed N, Lim KI, Aviram A, Ryan G, Barrett J. Guideline No. 428: Management of Dichorionic Twin Pregnancies. *J Obstet Gynaecol Can*. 2022 Jul;44(7):819-834.e1. doi: [10.1016/j.jogc.2022.05.002](https://doi.org/10.1016/j.jogc.2022.05.002). PMID: 35798461.

Kanninen T, Bellussi F, Berghella V. Fundal pressure to shorten the second stage of labor: systematic review and meta-analysis. *Eur J Obstet Gynecol Reprod Biol* 2022;275:70–83.

Summary: This study systematically reviewed the evidence on fundal pressure to expedite vaginal delivery. The literature search retrieved 10 randomized controlled trials of fundal pressure to expedite delivery, the results of which

were then included in a meta-analysis. The primary outcome of this analysis was the length of the second stage of labour.

This review found that fundal pressure was associated with a shorter length of the second stage of labour (mean difference [MD] -20.33 min; 95% CI -28.55 to -12.11). Sub-group analysis with only manual pressure or a belt confirmed the association. There were no significant differences in the rates of VD (relative risk [RR] 1.00; 95% CI 0.98–1.02), 1- and 5-minute Apgar scores (MD 0.10; 95% CI -0.05 to 0.24 and MD 0.02; 95% CI -0.12 to 0.15), neonatal trauma (RR 0.33; 95% CI 0.01–7.90), vaginal/perineal laceration (RR 0.83; 95% CI 0.57–1.22), cervical laceration (RR 1.30; 95% CI 0.21–8.02), episiotomy (RR 1.08; 95% CI 0.96–1.21), CD (RR 0.72; 95% CI 0.34–1.51), operative VD (RR 0.79; 95% CI 0.55–1.13), or neonatal intensive care admission (RR 0.33; 95% CI 0.01–7.90). However, fundal pressure was associated with lower umbilical cord arterial pH (MD -0.03 ; 95% CI -0.04 to -0.01) and a non-significantly higher incidence of Apgar scores <7 at 5 minutes (4.9% vs. 0.7%; RR 3.48; 95% CI 0.57–21.32). Given these findings, the fundal pressure in the second stage is associated with a 20-minute decrease in the length of labour and a small decrease in neonatal umbilical artery pH.

Comment: I first saw this practice performed by a younger colleague of mine visiting from Israel. I had to rescue him from the wrath of attendant nurses and colleagues who looked on in horror as he performed this maneuver during the second stage of labour. He insisted that it is widely performed and very successful and safe if you know how to do it. We must always be open to other ways of doing things! Thank you, Vincenzo, for publishing this and ensuring we all keep an open mind.