and now suggest that for such women the risk/benefit discussion should incorporate a shared decision-making approach, taking into account the lack of short-term safety concerns but uncertainty regarding benefit. They also note the need for extra patient visits and that long-term potential maternal and neonatal effects are unknown. It is acknowledged that AMAG provides support to SMFM and this potential conflict of interest has been pointed out.

Those who believe 17P should no longer be used point to the lack of benefit in the PROLONG study, which was larger and arguably of higher quality than the earlier Meis study. In addition, they note a lack of biologic explanation for a benefit of 17P and feel that this lack of clear biologic mechanisms for why it would be effective is a further argument against its use. Proponents note that further studies are needed.

So, what is the right thing to do? Given the size and quality of the PROLONG study and the lack of biologic explanation for why 17P would prevent recurrent PTB, it seems difficult to justify continuing to use this drug. The lack of long-term safety data and the inconvenience and cost of weekly visits are also arguments against treatment with a drug of unproven benefit. Unfortunately, vaginal progesterone has also not been proven effective in this population, yet patients and providers are often desperate for a treatment option. The SMFM recommends a shared decision-making model, given the controversy, in which the highest-risk women are offered the option of using Makena but without a heavy-handed recommendation for all women with a prior sPTB. Until further evidence or an alternative treatment option is available, unfortunately this seems like the best—although dissatisfying—approach. —MEN

---

**Babies in Occiput Posterior Position Are Significantly More Likely to Require an Emergency Cesarean Birth Compared With Babies in Occiput Transverse Position in the Second Stage of Labor: A Prospective Observational Study**

Nicola Tempest, Steven Lane, and Dharani Hapangama,
UK Audit and Research Trainee Collaborative in Obstetrics and Gynecology (UK-ARCOG)

Liverpool Women's Hospital NHS Foundation Trust (N.T., S.L., D.H.); and Department of Women's and Children's Health, Institute of Translational Medicine, University of Liverpool (N.T., D.H.), Liverpool, United Kingdom

Acta Obstet Gynecol Scand 2020;99:537–545

**ABSTRACT**

A fetus in the occiput posterior (OP) or occiput transverse (OT) position at delivery increases the risk for cesarean delivery up to 6-fold and instrumental delivery by up to 4-fold. Although there are a number of methods to assist with the delivery of the fetus in these malpositions, limited data are available on the rates of obstetric intervention in this patient population and the subsequent neonatal and maternal outcomes. This study aimed to compare the final mode of delivery and immediate outcomes between women with persistent OP and those with persistent OT.
This was a national prospective study, conducted in 66 National Health Service obstetric units in the United Kingdom over 1 calendar month (May 1–31, 2016). The analysis included data on all births with OP or OT positions, requiring assisted rotational vaginal operative birth or emergency cesarean delivery to expedite delivery in the second stage of labor. Outcomes included success in achieving operative vaginal rotational delivery with first instrument used (eg, rotational ventouse [RV], Kielland forces [KF], or manual rotation [MROT]) and the need for emergency cesarean delivery.

Data from 838 consecutive full-term births with malposition of the fetal head were included in the analysis (410 OP, 380 OT, and 48 unknown). A statistically higher rate of emergency cesarean delivery and a lower success rate with assisted vaginal delivery were found among births with OP positions compared with births with OT positions (15% vs 6.1%, \( P < 0.001 \)). In cases of assisted vaginal delivery, the first instrument used was successful in 74.4% of births with OP positions and 79.3% of those with OT position (\( P = 0.12 \)); this was not statistically significant. In births with OP position, the first attempt using RV, KF, or MORT resulted in successful vaginal delivery 85.7%, 80.2%, or 62.4%, respectively, of the time. In births with OT position, the first attempt using RV, KF, or MORT resulted in successful vaginal delivery 87.0%, 77.1%, or 73.7%, respectively.

Without randomized clinical trials to inform best practices, these findings can be helpful in counseling patients on the risk and success rates of modes of delivery for fetuses with OP or OT position.

**EDITORIAL COMMENT**

(Fetal malposition including both OP and OT positions is a common problem in labor and delivery that I think has received increasingly less attention in clinical obstetrics over time. Fetal malposition leads to longer first and second stages that, in the 20th century, more commonly led to obstetric maneuvers and continued attempts to achieve vaginal delivery. However, with the rise in the cesarean delivery in the early part of the 21st century, such patients have been commonly delivered via cesarean. More recently, with a focus on reducing the first cesarean deliveries in the United States, however, a better understanding of clinical outcomes associated with fetal malposition and of interventions that lead to vaginal delivery is important to elucidate. With potential interventions that could affect a change from malposition to occiput anterior positions, potentially, a significant proportion of cesarean deliveries could be prevented.

When considering the impact of OP specifically, it leads to more operative deliveries, both cesarean and operative vaginal deliveries; in one study, OP presentations in the second stage led to cesarean delivery more than 40% of the time (J Matern Fetal Neonatal Med 2011;24:65–72). Further, in cases where operative vaginal delivery can be achieved, the risk for third- or fourth-degree perineal laceration is extremely high (Am J Obstet Gynecol 2006;194:e7–e9). With regards to neonates, there seem to be higher rates of neonatal acidemia and birth trauma in the setting of persistent OP position (Obstet Gynecol 2006;107:837–844). In practice, knowing that such pregnancies are at increased risk for operative delivery and that mothers and neonates are at increased risk, clinicians can be inclined to move to cesarean delivery without attempting an operative vaginal delivery.

The study abstracted previously reports out the success rates of vaginal delivery in women in the OP and OT positions who were managed with rotational forceps, vacuum, or MROT. Of note, using the vacuum specifically to rotate the fetal occiput with an OP or OT position is not generally advised; however, it has been used for decades to do so, and for those trained to specifically allow autorotation of the occiput with descent, this approach is reasonable and can lead to a safe vaginal delivery. The authors found that successful vaginal delivery was achieved with vacuum and forceps in 77% to 87% of cases, respectively. Manual rotation was also successful, although at slightly lower rates of 62% to 74% in OP and OT fetuses, respectfully.

The good news is that all approaches led to a successful vaginal delivery in the majority of cases. Although there were not statistically significant differences, the absolute numbers demonstrated a lower rate of vaginal delivery success with MROT approaches. However, I continue to find that, in the majority of the United States, MROT is the appropriate approach because identifying providers who can provide and train the next generation to provide rotational operative vaginal deliveries is not achievable at most institutions. Although there are pockets of such providers, and in such a setting, it seems that these approaches may...
Early Amniotomy After Cervical Ripening for Induction of Labor: A Systematic Review and Meta-analysis of Randomized Controlled Trials

Valentino De Vivo, Luigi Carbone, Gabriele Saccone, Giulia Magoga, Generoso De Vivo, Mariavittoria Locci, Fulvio Zullo, and Vincenzo Berghella

Department of Neuroscience, Reproductive Sciences and Dentistry, School of Medicine, University of Naples Federico II, Naples (V.D.V., L.C., G.S., G.D.V., M.L., F.Z.); Department of Medical, Surgical and Health Sciences, University of Trieste, Trieste (G.M.), Italy; and Department of Obstetrics and Gynecology, Thomas Jefferson University, Philadelphia, PA (V.B.)

Am J Obstet Gynecol 2020;222(4):320–329

ABSTRACT

Induction of labor (IOL) is performed in approximately 20% of pregnant women in the Unites States. For induction, amniotomy, an artificial rupture of membranes to stimulate contractions, can be performed during vaginal examination and does not require anesthesia. The benefits seem to include shorter labor, but the risks can include nonreassuring fetal testing, which may lead to cesarean delivery. Because of this, the timing of amniotomy after cervical ripening is controversial. The aim of this study was to evaluate the effectiveness of early amniotomy performed before the active phase of labor versus late amniotomy performed after the onset of active labor.

This was a systematic review and meta-analysis of randomized controlled trials, captured from the MEDLINE, EMBASE, Web of Sciences, Scopus, ClinicalTrials.gov, OVID, and Cochrane Library electronic databases from their inception to February 2019. Included in the analysis were women with an uncomplicated pregnancy at term with singleton gestation, who were admitted for IOL for various conditions. The primary outcome was the incidence of cesarean delivery. Secondary outcomes were overall length of stay, latency from randomization or induction to delivery, vaginal delivery within 24 hours of randomization, mode of delivery, and neonatal outcomes.

The database search and analysis identified 4 trials that included 1273 women who underwent cervical ripening then were randomized to early amniotomy or control group. The control group was based on 2 trials that included women who underwent late amniotomy and 2 trials of women with spontaneous rupture of membranes. The risk of cesarean delivery was similar between the early amniotomy group and control group (31.1% vs 30.9%; relative risk [RR], 1.05; 95% confidence interval [CI], 0.71–1.56). The early amniotomy group saw a reduction in spontaneous vaginal delivery, but only 1 trial reported this outcome (67.5% vs 69.1%; RR, 0.78; 95% CI, 0.66–0.93). The early amniotomy group also had a shorter interval from induction to delivery of approximately 5 hours (weighted mean difference, −4.95 hours; 95% CI, −8.12 to −1.78). No differences were reported in the other obstetric or perinatal outcomes between the groups.

Early amniotomy after cervical ripening did not increase the risk of cesarean delivery and shortened the interval from induction to delivery.

EDITORIAL COMMENT

(It is still common in Ireland and other European countries to routinely use active management of labor (AML). There are generally 3 components of AML: (1) intravenous oxytocin administered starting at 4 to 6 mU/min and increased by 4 to 6 mU/min every 15 to 20 minutes; (2) artificial rupture of the membranes (AROM) as soon as possible; and (3) continuous labor support by a midwife, nurse, or doula. The oxytocin protocol leads to continuous infusions that are rapidly increased to 30 or 40 mU/min and can be associated with more frequent tachysystole or even