

103: Foley Plus Oxytocin Versus Oxytocin Alone for Labor Induction \geq 34 Weeks After Premature Rupture of Membranes (PROM): a Randomized Controlled Trial

A. Dhanya Mackeen

Danielle E. Durie MD

Lehigh Valley Health Network, Danielle_E.Durie@lvhn.org

Monique Lin

Christopher K. Huls

Michael J. Paglia

See next page for additional authors

Follow this and additional works at: <https://scholarlyworks.lvhn.org/obstetrics-gynecology>



Part of the [Obstetrics and Gynecology Commons](#)

Published In/Presented At

Mackeen, A. D., Durie, D. E., Lin, M., Huls, C. K., Paglia, M. J., Sun, H., & Sciscione, A. (2017). 103: Foley plus oxytocin versus oxytocin alone for labor induction \geq 34 weeks after premature rupture of membranes (PROM): a randomized controlled trial. *American Journal Of Obstetrics & Gynecology*, 216(1), S72-S73. 216S72-S73. doi:10.1016/j.ajog.2016.11.992

This Article is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact LibraryServices@lvhn.org.

Authors

A. Dhanya Mackeen, Danielle E. Durie MD, Monique Lin, Christopher K. Huls, Michael J. Paglia, Haiyan Sun, and Anthony Sciscione

RESULTS: There were 1322 (57%) normal weight, 524 (23%) overweight, and 463 (20%) obese women. Of 2309 patients, 523 (23%) showed a decrease in EFW% of >20%, 1546 (67%) showed an EFW change within 20%, and 240 (10%) showed an increase in EFW% of >20%. Among normal weight women, a greater than 20% increase in EFW percentile in fetal growth was associated with greater than recommended maternal weight gain (OR = 1.56, 95% CI (1.17, 2.09), P=.003), age at delivery (1.03, 95% CI (1.01, 1.05), P=.006) and pre-pregnancy BMI (OR = 1.08, 95%CI (1.01, 1.15), P=.03). Among overweight women, fetal growth was not associated with recommended maternal weight gain (P=0.39), but was associated with pre-pregnancy BMI (OR = 1.16, 95%CI (1.02, 1.32), P=.02). Among obese women, fetal growth was not associated with recommended maternal weight gain (P=.50), but was associated with age at delivery (OR = 1.05, 95%CI (1.02, 1.09), P=.004).

CONCLUSION: This study supports the IOM recommendations regarding maternal weight gain during pregnancy for normal weight women. However, it suggests that factors other than maternal weight gain may contribute to fetal growth patterns among overweight and obese women.

102 Planned home births: The need for additional contraindications



Amos Grunebaum¹, Birgit Arabin², Laurence B. McCullough¹, Katherine J. Sapro¹, Frank A. Chervenak¹

¹Weill Cornell Medicine, New York, NY, ²Clara Angela Foundation, Witten and Berlin, Germany

OBJECTIVE: The ACOG Committee on Obstetric Practice considers fetal malpresentation, multiple gestation, and prior cesarean delivery as the only absolute contraindications to planned home birth. The objective of this study was to identify planned home birth patients who may have additional contraindications.

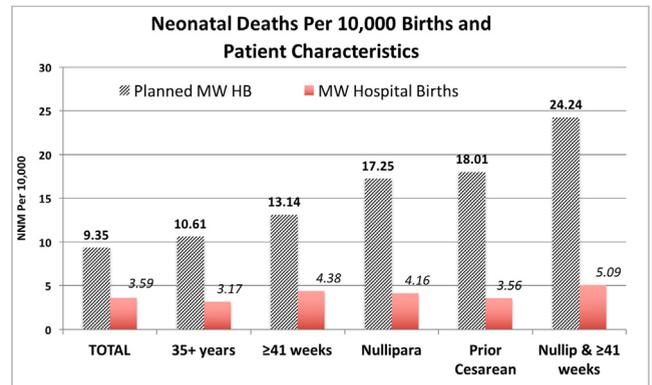
STUDY DESIGN: We performed a population-based, retrospective cohort study of non-anomalous births in singleton pregnancies ≥37 weeks gestations, that occurred in states using the 2003 revised birth certificate from 2009-2013 and data from CDC's period linked birth-infant death files that allowed for the identification of intended and unintended home births. We assessed neonatal mortality (NNM) among intended home births attended by midwives (MW) vs. hospital births attended by midwives and calculated the standardized risk (SR) and the stratum-specific standardized mortality ratio (SMR) for planned home births versus hospital births.

RESULTS: The study included 75,065 home and 1,098,700 hospital births. Planned home births had a higher rate of neonatal deaths than in-hospital births (9.35 vs. 3.59 NND per 10,000 deliveries). Pregnancies at highest individual NNM risk were those with 1. prior cesarean delivery (SR 18.01 vs 3.56 NND/10,000), 2. nulliparous women (SR 17.25 vs. 4.16 NND per 10,000 deliveries), 3. ≥41 weeks gestations (SR 13.14 vs. 4.38 NND/10,000), 4. ≥35 years maternal age (SR 10.61 vs. 3.17 NND/10,000). At highest risk for NNM were pregnancies of nulliparous women with ≥41 weeks gestation (SR 24.24 vs. 5.09 NND/10,000).

CONCLUSION: Planned home births are associated with increased risks of neonatal mortality. Our study shows that there are sub-groups beyond those listed by ACOG as absolute contraindications which are at significantly higher risks of NNM including nulliparous women, pregnancies ≥41 weeks, and women ≥35 years of age. Our data are likely an underestimate of the actual NNM outcomes at planned home births as patients transferred to the hospital with likely higher adverse outcomes are not included in the planned home birth outcomes. These significantly further increased neonatal risks

in women with certain characteristics should be added when considering absolute contraindications for planned home births, and must be disclosed as part of the informed consent process when counseling patients considering a planned home birth.

	SMR (95% CI)	HB (NNM/ 10,000)
Prior Cesarean	5.06 (1.04-9.08)	18.01
Nulliparous	4.15 (2.46-5.84)	17.25
≥41 weeks	3 (1.89-4.11)	13.14
≥35 years	3.34 (1.71-4.98)	10.61
Nullip & ≥41 weeks	4.76 (1.82-7.7)	24.24



103 Foley plus oxytocin versus oxytocin alone for labor induction ≥ 34 weeks after premature rupture of membranes (PROM): a randomized controlled trial



A. Dhanya Mackeen¹, Danielle E. Durie², Monique Lin^{3,4}, Christopher K. Huls⁵, Michael J. Paglia¹, Haiyan Sun⁶, Anthony Sciscione⁷

¹Geisinger Health System, Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine, Danville, PA, ²Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine, Lehigh Valley Health Network, Allentown, PA, ³University of Colorado School of Medicine, Aurora, CO, ⁴Colorado Fetal Care Center, Aurora, CO, ⁵University of Arizona College of Medicine, Phoenix at Banner University Medical Center, Phoenix, AZ, ⁶Geisinger Health System, Department of Obstetrics and Gynecology, Division of Maternal-Fetal Medicine and Biostatistics Core, Danville, PA, ⁷Christina Care Health System, Newark, DE

OBJECTIVE: To assess the efficacy of transcervical Foley catheter plus oxytocin infusion versus oxytocin infusion alone for labor induction and cervical ripening in women ≥34weeks with PROM.

STUDY DESIGN: This is a randomized, multicenter trial of women with a live, singleton gestation ≥34weeks with PROM, an unfavorable cervical exam (≤2cm/80%) and no contraindication to labor. Subjects were randomly allocated to a Foley catheter inflated to 30cc with concurrent oxytocin infusion (FOLEY) or to oxytocin infusion alone. Oxytocin administration was standardized across sites. Block randomization was employed with stratification by parity, term/preterm and hospital site. The primary endpoint was interval from induction to delivery. Secondary outcomes included interval from induction to vaginal delivery, cesarean delivery rate, and maternal and neonatal infectious complications (e.g., clinical and histological chorioamnionitis, endometritis, antibiotic use, and sepsis). Intention-to-treat analysis was performed.

RESULTS: We enrolled 201 women: 93 were allocated to FOLEY and 108 to oxytocin. Demographics were similar between the groups.

Linear regression analysis revealed a non-significant shorter time to delivery (-26.6 mins, 95% CI -151.8, 98.5 mins, $p = 0.677$) in the FOLEY arm as compared to the oxytocin arm. Other delivery outcomes were similar between groups (Table). There were more cases of clinical chorioamnionitis (9.7% vs 2.8%, $p = 0.046$) in the FOLEY arm as compared to the oxytocin arm. There were no differences for other infectious morbidities or any other variable studied (Table).

CONCLUSION: Transcervical Foley plus oxytocin infusion does not offer an advantage over oxytocin infusion alone for labor induction in women ≥ 34 weeks with PROM. Additionally, it appears to increase the risk of clinical chorioamnionitis.

Table. Additional Secondary Outcomes

	Oxytocin Only (N = 108)	FOLEY (N = 93)	P value
<i>Delivery Outcomes</i>			
Cesarean delivery	21 (19.4%)	25 (26.9%)	0.349
Vaginal delivery within 12 hours	46 (42.6%)	34 (36.6%)	0.384
Vaginal delivery within 24 hours	80 (74.1%)	61 (65.6%)	0.190
<i>Infectious Outcomes</i>			
Clinical chorioamnionitis	3 (2.8%)	9 (9.7%)	0.046
Endometritis	0	0	-
Culture proven maternal sepsis	0	0	-
Maternal treatment with postpartum antibiotics	5 (4.6%)	10 (10.7%)	0.100
Histologic chorioamnionitis/funisitis	9 (8.3%)	10 (10.8%)	0.559
<i>Neonatal Outcomes</i>			
Five minute Apgar score < 5	1 (0.9%)	1 (1.1%)	0.999
Admission to Neonatal Intensive Care Unit	20 (18.5%)	21 (22.6%)	0.476
Neonatal infectious evaluation	25 (23.2%)	33 (35.5%)	0.054
Culture proven neonatal sepsis	0	0	-

104 Transient isolated polyhydramnios - is it even an entity?

Amir Aviram^{1,2}, Alexandra Berezowsky², Anat Shmueli², Rinat Gabbay-Benziv², Eran Hadar², Eran Ashwal^{1,2}, Liran Hirsch^{1,2}, Arnon Wiznitzer², Yariv Yogev^{1,2}

¹Lis Maternity and Women's Hospital, Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel, ²Helen Schneider Hospital for Women, Rabin Medical Center, Petach Tikva, Israel

OBJECTIVE: Polyhydramnios (AFI>250mm) is associated with adverse perinatal outcome. However, pregnancy outcome of women

diagnosed in mid-pregnancy with polyhydramnios which later resolved is unclear, especially women with isolated polyhydramnios. Thus, we aimed to evaluate labor and perinatal outcomes of transient, isolated polyhydramnios.

STUDY DESIGN: A retrospective cohort study (2008-2013). Eligibility was limited to singleton gestations, with no maternal diabetes or known structural/chromosomal anomalies (diagnosed antepartum or postpartum), and no rupture of the membranes prior to delivery. All women included in the study had routine sonographic estimation of fetal weight (EFW) between 28-34 weeks of gestation. We compared women diagnosed with transient isolated polyhydramnios (AFI>250mm) at the time of the EFW but presented with normal AFI (AFI \leq 250mm) at admission to the delivery ward, with women who had normal AFI throughout pregnancy.

RESULTS: Overall, 44,263 women delivered in this time period, of which 292 women had transient isolated polyhydramnios (study group) and 29,682 women with normal amniotic fluid level (control group) were eligible for analysis. Our main findings were: ($p < 0.001$ unless stated otherwise) 1. Women in the study group were less likely to be nulliparous ($p = 0.024$), delivered at a more advanced gestational age, and were more likely to use epidural analgesia ($p = 0.006$). 2. Women in the study group had higher risk operative vaginal delivery (OVD) ($p = 0.024$), mainly due to non-reassuring fetal heart rate (NRFHR) ($p = 0.05$) and higher risk for cesarean section (CD), mostly because of labor dystocia, suspected macrosomia or malpresentation. 3. Mean birth weight and birth weight percentile were higher for women in the study group and the rate of necrotizing enterocolitis (NEC) was 6-fold higher ($p = 0.03$). 4. After accounting for confounders in a multivariate logistics regression model, transient isolated polyhydramnios remained an independent risk factor for OVD, CS, NRFHR requiring OVD, labor dystocia, suspected macrosomia or malpresentation requiring CD and NEC.

CONCLUSION: Transient, isolated polyhydramnios detected during the third trimester and spontaneously resolving by term, is still an independent risk factor for obstetrical intervention during labor and for neonatal NEC.

Parameter	Adjusted OR	95% CI	P value
Spontaneous vaginal delivery	0.48	0.36-0.64	<0.001
Operative vaginal delivery (OVD)	1.69	1.14-2.51	0.009
OVD indicated by non-reassuring fetal heart rate monitor	2.31	1.21-4.41	0.011
Cesarean delivery (CD)	2.06	1.46-2.91	<0.001
CD indicated by prolonged first stage of labor	2.47	1.2-5.1	0.014
CD indicated by prolonged second stage of labor	3.43	1.64-7.18	0.001
CD indicated by suspected fetal macrosomia first stage of labor	3.21	1.57-6.55	0.001
CD indicated by fetal malpresentation	6.55	2.03-21.15	0.002
Necrotizing enterocolitis	14.93	1.76-126.73	0.013

