CLINICAL OBSTETRICS

Abstracts 27 – 35

Moderators: Carol Major, MD; Robert Silver, MD

27 Does elective delivery policy change affect maternal or fetal morbidity?

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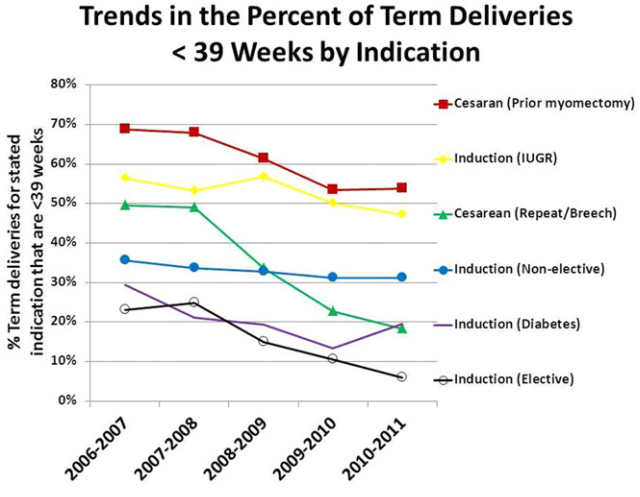
OBJECTIVE: Over the last 5 years, attention on both a national and institutional level has focused on the neonatal benefits of reducing elective deliveries prior to 39 weeks. We investigated whether this has impacted maternal or fetal risks.

STUDY DESIGN: We reviewed all singleton term births at a tertiary care center between 2006 and 2011. We categorized inductions as elective if the stated indication was elective, history of fast labor, advanced cervical exam, maternal discomfort, unstable lie or macrosomia. We considered cesarean deliveries elective if they were scheduled repeat or breech deliveries.

RESULTS: There were 33,662 term deliveries. Between 2006 and 2011, there was no change in the mean gestational age (39.51 to 39.52 weeks; $p=0.38$) but there was a reduction in the overall proportion of 37-38 week deliveries (29.9% to 25.4%; $p<0.01$). The reduction in early term deliveries was seen amongst both elective inductions (23.0% to 5.3%; $p<0.01$) and elective cesareans (49.5% to 18.3%; $p<0.01$). Of note, this reduction in early term deliveries was also seen for delivery indications that were not considered elective (Figure). There were no significant changes in the rate of macrosomia (1.4% to 1.0%), shoulder dystocia (0.4% to 0.4%), uterine rupture (0.4% to 0.5%), postpartum hemorrhage (3.2% to 2.8%), severe laceration (2.0% to 1.4%), pre-eclampsia (6.3% to 6.7%), or nighttime deliveries (52.3% to 53.0%). There was a non-significant increase in the rate of stillbirths after 37 weeks from 8.6 per 10,000 (CI 4-20 per 10,000) to 12.1 (CI 6-24 per 10,000); in order to have 80% power to detect a two-fold increased risk in stillbirth we would have needed four times the sample size.

CONCLUSION: Policy efforts were successful as we found a reduction in elective deliveries prior to 39 weeks in our large cohort. There was also a trend toward later delivery for indications not considered purely elective. Further study is needed to characterize the degree of increased risk incurred by prolonging high risk pregnancies to 39 weeks.



28 Risk of stillbirth after 37 weeks in pregnancies complicated by small for gestational age fetuses

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OBJECTIVE: The evidence for delivering small for gestational age (SGA) fetuses at 37 weeks remains conflicting. Our objective is to estimate the risk of stillbirth per additional week of gestation beyond 37 weeks for pregnancies complicated by SGA.

STUDY DESIGN: We performed a retrospective cohort study of singleton pregnancies undergoing routine second trimester anatomy ultrasound from 1990-2009. Pregnancies complicated by fetal anomalies, aneuploidy and incomplete birthweight information were excluded. SGA was defined as birthweight < 10th percentile by the Alexander growth standard. The incidence of stillbirth at each gestational age strata was calculated as the number of stillbirths during that week per 10,000 ongoing pregnancies. For pregnancies ≥37 weeks, the risk of stillbirth with 95% CI and the OR with 95% CI for the association of SGA and stillbirth were calculated. The risk of stillbirth with 95% CI was calculated for each week of gestation ≥37 weeks.

RESULTS: Among 57,195 pregnancies meeting inclusion criteria the background risk of stillbirth was 56/10,000 (95% CI 42.3-72.7). The risk of stillbirth beyond 37 weeks in pregnancies complicated by SGA was greater compared to pregnancies without SGA (60/10,000 vs. 12/10,000 OR 7.1 95% CI [3.9-12.4]). A significant risk of stillbirth was found for each week of pregnancy beyond 37 weeks. The risk of stillbirth in the first week, 37-37 6/7 weeks, was 21/10,000 (95% CI [13.0-32.1]). At ≥40 weeks gestation the risk of stillbirth rose to 60/10,000 (95% CI [45.8-77.2]).

CONCLUSION: Pregnancies complicated by SGA have a five-fold increase risk for stillbirth beyond 37 weeks compared to pregnancies that are not complicated by SGA. There is a significant risk of stillbirth for each week of gestation beyond 37 weeks. Given these findings, a policy of delivery of SGA fetuses at 37 weeks is advocated.

GA (weeks)	Ongoing SGA Pregnancies	SGA Stillbirths (N=20)	Stillbirth risk/10,000 ongoing SGA pregnancies
37-37 6/7	3,333	7	21 (13.0-32.1)
38-38 6/7	2,776	3	11 (5.5-19.7)
39-39 6/7	1,953	5	26 (17.0-38.1)
≥40	832	5	60 (45.8-77.2)

29 The Mothers, Omega-3 & Mental Health Study: a double-blind, randomized controlled trial

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OBJECTIVE: Maternal deficiency of the omega-3 fatty acid, docosahexaenoic acid (DHA) has been associated with perinatal depression.

However, several systematic reviews have suggested that eicosapentaenoic acid (EPA) may be more effective than DHA in treating depressive symptoms. We performed this trial to compare EPA- and DHA-rich fish oils for prevention of perinatal depressive symptoms among women at risk.

STUDY DESIGN: We enrolled 126 women at risk for depression (Edinburgh Postnatal Depression Scale score 9-19 or past history of depression) in early pregnancy (12-20 weeks) and randomly assigned them to receive prenatal supplementation with EPA-rich fish oil (1060 mg EPA plus 274 mg DHA), DHA-rich fish oil (900 mg DHA plus 180 mg EPA), or soy oil placebo. Subjects completed the Beck Depression Inventory (BDI) and the Mini International Neuropsychiatric Interview at enrollment, at 26-28 weeks, at 34-36 weeks, and at 6-8 weeks postpartum. Serum fatty acid concentrations were analyzed at entry and at 34-36 weeks gestation.

RESULTS: One hundred eighteen women completed the trial. There were no differences in BDI scores or in changes in BDI scores between the groups at any of the 3 time points after supplementation. These findings were unchanged in both the "intent-to-treat" and "per protocol" analyses. There were no differences in the proportion of subjects who met criteria for major depressive disorder during the course of the trial, or in the proportion that required antidepressant medications. The EPA- and DHA-rich fish oil groups exhibited significantly increased post-supplementation concentrations of serum EPA and serum DHA respectively. The omega-6: omega-3 ratio decreased significantly in the DHA-rich fish oil group. There were no significant associations between serum EPA, DHA, or omega-6:omega-3 ratios and BDI scores.

CONCLUSION: EPA-rich fish oil and DHA-rich fish oil did not prevent depressive symptoms during pregnancy or postpartum.

30 Perinatal outcome in singletons born after replacement of frozen/thawed embryos

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OBJECTIVE: Frozen/thawed embryo replacement (FER) is increasingly used in IVF programs. The option of freezing spare embryos supports the strategy of single embryo transfer, thereby reducing the well-known risk of adverse outcomes related to multiple births. The aim of the present study was to analyse the perinatal outcome in a Nordic study on singletons born after FER in comparison with singletons born after fresh IVF cycles and singletons in the general population.

STUDY DESIGN: Data were collected for all IVF treatments in Denmark, Norway and Sweden during 1984-2007. Data were crosslinked with the Nordic Medical Birth Registries. Singletons born after FER were compared with singletons born after fresh IVF and singletons in the general population. Outcomes were low birth weight (LBW), very LBW, preterm birth (PTB), very PTB, small for gestational age (SGA), macrosomia (> 4500g), LGA and stillbirth. Crude and adjusted odds ratios with 95% CI were calculated. Adjustment was made for maternal age, parity, child sex and year of birth.

RESULTS: There were 6653 children born after FER, 42287 singletons born after fresh IVF and 288868 singletons born after non IVF. As compared with the general population singletons born after FER had higher rate of PTB (AOR 1.4; 1.2-1.5), very PTB (AOR 1.8; 1.5-2.3), LBW (AOR 1.3; 1.1-1.4), very LBW (AOR 1.71.3-2.2), LGA (AOR 1.3; 1.2-1.5) and macrosomia (AOR 1.4;1.2-1.5). As compared with fresh IVF, singletons born after FER had lower rate of PTB (AOR 0.9-1.0), LBW (AOR 0.8; 0.7-0.9) and SGA (AOR 0.8; 0.7-0.9) and higher rate of LGA (AOR 1.4; 1.2-1.6) and macrosomia (AOR 1.5; 1.3-1.7). For other outcomes no significant differences were found.

CONCLUSION: This is the largest population based study on singletons born after FER. It confirms previous studies of a worse perinatal outcome as compared with the general population and a better outcome as compared with fresh IVF. However, the increased rate of LGA and macrosomia needs further studies.

Perinatal outcome in singletons born after FER, fresh IVF and non IVF

	Cryo IVF N=6653 %)	Fresh IVF N=42287 %	NonIVF N= 288868 %
< 37 weeks	7.3	8.6	5.5
< 32 weeks	1.4	1.7	0.8
< 2500 g	4.7	6.4	3.8
< 1500 g	1.1	1.5	0.6
SGA	2.8	4.2	3.2
> 4500 g	5.1	3.1	3.1
> 5500 g	0.03	0.04	0.04
LGA	5.0	3.2	3.1
Still birth	0.5	0.6	0.4

31 Preemptive Diclectin therapy for the management of nausea and vomiting of pregnancy and hyperemesis gravidarum

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OBJECTIVE: Our primary objective in this study was to determine whether the initiation of pre-emptive use of Diclectin (delayed release combination of 10 mg pyridoxine and 10 mg doxylamine) before symptoms of nausea and vomiting of pregnancy (NVP) began can mitigate symptoms as compared to starting Diclectin only at first sign of NVP symptoms, in patients with a high risk for recurrence of severe NVP or hyperemesis gravidarum (HG).

STUDY DESIGN: This study was a prospective, randomized controlled trial. Women with history of severe NVP and/or HG in their previous pregnancy were recruited to participate. Upon consent, patients were randomized to start taking Diclectin upon recognition of their pregnancy but before NVP symptoms began, or to start only upon appearance of symptoms. Both study groups received similar, intensive protocolized counseling as per evidence-based guidelines for NVP management.

RESULTS: A total of 30 women were randomized to the preemptive study group and 29 to the control study group. There was a 43.3% reduction in the recurrence of HG with pre-emptive use of Diclectin as compared to only 20.6% reduction in the control group ($p<0.05$). There were 70% fewer cases of moderate-severe cases of NVP (PUQE ≥ 11) in the preemptive study group with Diclectin than in the control group (15.4% vs. 39.13%) in the first 3 weeks of NVP ($p<0.04$). Significantly more women in the preemptive group (78.2%) had their NVP resolved before delivery compared to the control group (50%) ($p<0.002$). The mean (SD) dose of Diclectin over the course of NVP was no different between the pre-emptive group 0.65 mg/kg/d (SD = 0.23) and the control group 0.56 mg/kg/d (0.24). Both study group patients received a mean of 8 follow-up calls (SD 1.8).

CONCLUSION: Preemptive use of Diclectin combined with intensive protocolized counseling effectively decreases the risk of severe forms of NVP.