

CLINICAL OBSTETRICS

Abstracts 27 – 35

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27 Outcome after embryo reduction in triplet pregnancy compared to ongoing triplet pregnancies and primary twins

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OBJECTIVE: To assess in triplet pregnancies the effectiveness of selective reduction to twins.

STUDY DESIGN: We studied in a retrospective study consecutive cases of triplet pregnancies that were reduced to twins in all fetal medicine units in the Netherlands (2000-2010). All reductions were performed for social indication, transabdominally by intracardiac KCl injection between 10-15 weeks. The outcome was compared to ongoing triplet pregnancies retrieved from the Dutch Perinatal Registration (PRN), and to twin pregnancies collected from a previous RCT comparing progesterone to placebo (AMPHIA ISRCTN 40512715). The three groups were compared for mean gestational age, pregnancy loss <24 weeks, delivery <32 weeks, neonatal birth weight and number of stillbirths. Statistical test were performed in SPSS 18. One Way ANOVA test was used to compare mean gestational age and Chi Square test to compare delivery <24 and <32 weeks, neonatal birth weight and number of stillbirths.

RESULTS: We identified 76 triplet pregnancies reduced to twins. Mean gestational age at delivery was 33.7 weeks (SD 5.5). For ongoing triplets and primary twins this was 32.8 weeks (SD 3.8) and 35.6 weeks (SD 3.7), resp. Mean neonatal birth weight of the first child was 2123.5 grams (SD 811.6) in the reduced group, 1883.2 (703.8) and 2383.7 (657.7) grams in ongoing triplets and primary twins, resp. Preterm delivery < 24 and < 32 weeks was not different for ongoing triplets and triplets reduced to twins (3.8% vs 7.9% and 26.8% vs 22.4% resp.) but there was a significant difference between the reduction group and primary twins for delivery <24 and <32 weeks (7.9% vs 2.6% and 22.4% vs 11.1 % resp.). In the reduction group there were 9 stillbirths (16%), for ongoing triplets and primary twins this was significantly lower, 22 (4%) and 15 (2%) resp.

CONCLUSION: Embryo reduction from triplet to twin did not improve gestational age and neonatal outcome and these twins are not compa-

rable to primary twins. Since the risk of pregnancy loss <24 weeks increases in reduced twins, improvement in obstetric outcome should not be used as an argument for reduction.

Table 1:

	Ongoing triplet (575)	Reduced to twin (76)	Primary Twin (653)	p-value
Gestational age (weeks)*	32.8 (3.8)	33.7 (5.4)	35.6 (3.7)	*0.07 *0.000
Delivery <24 weeks (n)	22 (3.8%)	6 (7.9%)	17 (2.6%)	*0.1 *0.01
Delivery < 32 weeks (n)	154 (26.8%)	17 (22.4%)	72 (11.1%)	*0.4 *0.005
Gestational weight child 1 (grams)*	1883.2 (703.8)	2123.5 (811.6)	2383.7 (657.7)	*0.09
Stillbirth child 1 (n)	22 (4%)†	9 (16%)‡	15 (2%)§	*0.000 *0.000

*Data presented as mean (SD)

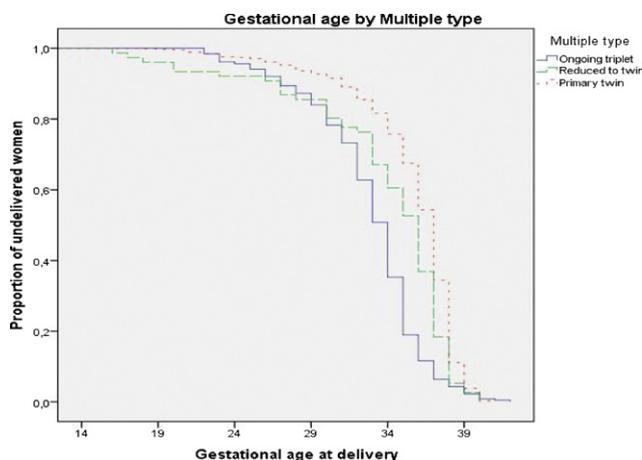
a. Between ongoing triplet and reduced to twin

b. Between reduced to twin and primary twin

† 22 are missing

‡ 21 are missing

§ 4 are missing



28 Effects on (neuro)developmental and behavioral outcome at 2 years of age of induced labor compared with expectant management in intra-uterine growth restricted infants—long term outcomes of the DIGITAT-trial

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OBJECTIVE: To study, in pregnancies complicated by intra-uterine growth restriction (IUGR) at term, the effect of being randomized to induction of labor on long-term developmental- and behavioral- outcomes, and to study the effect of neonatal condition at birth on these developmental outcomes.

STUDY DESIGN: We studied children included in a nationwide randomized controlled-trial comparing induction of labor with expectant management in pregnancies with IUGR at term. Parents of children included in the trial were asked to fill out two postal questionnaires

at the age of 2-years: the Ages and Stages (ASQ) and Child Behaviour Checklist (CBCL). The ASQ is designed to detect developmental delay and the CBCL is a standardized parental report of children's behavior. We compared the number of children with an abnormal outcome in both arms, as well as the effect of perinatal morbidity, morbidity assessment index for newborns (MAIN score), gestational age at birth and birth weight on long-term outcome. Perinatal morbidity was defined as a 5 minute Apgar score <7, umbilical arterial pH <7.05 or NICU admission. The MAIN score is a validated numeric index of early neonatal outcomes.

RESULTS: We approached 488 (75%) of the 660 parents of children randomized in the trial. The response rate was 60%. 27% and 14% of the children had an abnormal score on the ASQ and CBCL, respectively (Table 1). Results of the questionnaires were comparable for both interventions. However, poor neonatal condition after birth and the MAIN score both strongly increased the chance of an abnormal ASQ score (Odds Ratios of 18 (95% CI 1.5-212, p=0.02) and 1.005 (95% CI 1.002; 1.005, p=0.01), respectively). We found no association between birth weight or gestational age at birth and the outcome of the ASQ or CBCL.

CONCLUSION: In women with IUGR at term, a policy of induction of labor does not affect developmental and behavioral outcome when compared to expectant management. However, in both policies adverse neonatal outcome and MAIN score (corrected for other possible variables) both have negative effects on the outcome on the long-term child development.

	Induction of labor (ASQ n=157) (CBCL n=149)	Expectant management (ASQ n=134) (CBCL n=123)	Difference in percentage or mean (95 % CI)
Birth Weight (grams)	2425	2570	-144 (-233; -56)**
Gestational Age at Birth (days)	267	277	-10 (-12; -8)*
Abnormal ASQ	39 (25%)	38 (28%)	-3% (-14%; 7%)
Abnormal CBCL	23 (15%)	16 (13%)	2% (-6%; 11%)

** p < 0.001, * p < 0.05

29 The MFMU cesarean registry: propensity score analysis for bias reduction in comparing elective repeat cesarean delivery with trial of labor after a previous cesarean

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OBJECTIVE: Although multiple studies have compared outcomes of elective repeat cesarean delivery (ERCD) with trial of labor (TOL) after cesarean, these studies have been criticized as women who elect one approach over another may be inherently different. Propensity score (PS) analysis may limit this bias and identify groups with similar baseline patient characteristics. The objective of this analysis was to determine if PS analysis can generate ERCD and TOL groups with similar baseline patient characteristics to determine the odds of maternal and infant outcomes by mode of delivery with minimal bias.

STUDY DESIGN: We performed a secondary analysis from a 1999-2002 prospective study of women eligible for a TOL at 37 weeks gestation or more with one low transverse incision from a prior cesarean. Women were categorized according to whether they underwent TOL or ERCD. ERCD consisted of women without medical or obstetrical indications for a repeat cesarean, who had either a cesarean without

labor at 39 weeks or more, or who had spontaneous labor or rupture of membranes at 37 weeks or more and chose to proceed with cesarean delivery. TOL patients were matched to ERCD patients using 43 baseline variables comprising the PS. If no match was found the patient was not included. From the matched pairs, maternal and infant outcomes associated with each delivery approach were assessed using conditional logistic regression.

RESULTS: The two matched study groups (n=3981) were balanced in baseline characteristics according to the standardized difference criterion. The likelihood of TOL success was 68.1%. The frequencies of endometritis, operative injury, respiratory distress syndrome and newborn infection were lower, while those of hysterectomy and wound complication were higher in the ERCD group. The odds of either a maternal or an infant composite adverse outcome were reduced by 33% in those who underwent an ERCD (p<.001 for both).

CONCLUSION: Although absolute risks are low, even with well-balanced matched groups, overall maternal and infant morbidity is lower in the ERCD group.

Outcome	ERCD N = 3981 ^a	TOL N = 3981 ^a	P-value ^b	Conditional OR (95% CI)
Maternal Outcome				
Endometritis	85 (2.1)	144 (3.6)	<.001	0.57 (0.43 - 0.75)
Wound complication	34 (0.9)	17 (0.4)	0.02	2.00 (1.12 - 3.58)
Operative injury	6 (0.2)	20 (0.5)	0.006	0.30 (0.12 - 0.75)
Hysterectomy	12 (0.3)	3 (0.1)	0.02	4.00 (1.13 - 14.17)
Maternal composite ^c	136 (3.4)	200 (5.0)	<.001	0.67 (0.53 - 0.83)
Infant Outcome				
Transient tachypnea of newborn	119 (3.0)	107 (2.7)	0.41	1.12 (0.86 - 1.46)
Respiratory distress syndrome	41 (1.0)	68 (1.7)	0.01	0.60 (0.41 - 0.89)
Infection	124 (3.1)	211 (5.3)	<.001	0.58 (0.46 - 0.72)
Acidemia	14 (0.4)	25 (0.6)	0.08	0.56 (0.29 - 1.08)
Neonatal death	1 (0.03)	2 (0.05)	0.56	0.50 (0.50 - 5.51)
Infant composite ^d	202 (5.1)	295 (7.4)	<.001	0.67 (0.55 - 0.80)

OR, odds ratio; CI, confidence interval; ^aData presented as n (%); ^bP-value from McNemar's test; ^cMaternal composite includes all maternal outcomes plus uterine rupture, thromboembolism or maternal death; ^dInfant composite includes all infant outcomes plus hypoxic ischemic encephalopathy

30 Use of maternal and neonatal outcomes to measure quality of care: is hospital performance consistent across outcomes?

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OBJECTIVE: Regulatory bodies and insurers evaluate hospitals using obstetrical outcomes as quality measures. However, it is unclear which outcomes, or group of outcomes, are meaningful. Our goal was to assess the consistency of hospital performance across four obstetrical outcome measures.

STUDY DESIGN: Data were obtained by trained abstractors, with ongoing data edits and audits, from maternal and neonatal charts of all deliveries on 365 randomly selected days at 25 hospitals over a three-year period. Four outcome measures, selected a priori and rigorously defined, were chosen: postpartum hemorrhage (PPH), maternal peripartum infection, perineal trauma (3rd or 4th degree laceration) at spontaneous vaginal delivery (LAC), and a composite adverse neonatal outcome. Outcome rates, adjusted for institutional differences in patient characteristics, were calculated for each hospital, and hospitals were ranked from lowest to highest based on each outcome's frequency. Spearman correlations were calculated to determine risk-adjusted hospital performance for each measure.

RESULTS: 115,502 deliveries were evaluated. The hospital rates for PPH and LAC were negatively correlated (rho = -.49, p = .01) whereas hospital rates for PPH and infection were positively correlated (rho = .41, p = .04) (Figures). None of the other outcome measures rates were significantly correlated: neonatal vs. infection (p = .9), vs. LAC (p = .53), vs. PPH (p = .59), or LAC vs. infection (p = .13).