

no differences in estimated fetal weight, birthweight, or gestational age at delivery.

CONCLUSION: Unlike non-pregnant populations, sleep duration during pregnancy, when measured in the 3rd trimester, is not associated with excessive GWG. This is likely due to altered physiology in pregnancy and additional factors contributing to sleep disruption. Additional data, especially sleep characteristics in the 1st and 2nd trimesters, is needed to further evaluate a possible association between sleep duration and weight gain in pregnancy.

112 Is there a difference in the risk profile of women who develop thrombo-embolic events in the puerperium or later in life?

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OBJECTIVE: Venous thrombo-embolic events (VTE) (mainly pulmonary embolism [PE] and deep vein thrombosis [DVT]) are currently the primary cause for maternal death in the developed world. The study objective was to identify whether risk factors for VTE during the puerperium are different from these of thrombo-embolic events developed later in life during more than 10 years of follow-up.

STUDY DESIGN: A nested case-case study was designed, comparing women who experienced VTE in the puerperium period to women who experienced such an event over a period of a more than a decade. The study included women (n=316) with VTE from a cohort of 48,319 women that gave birth between the years 1987-1998 and had a follow up period until 2011. Multiple logistic regression model was constructed in order to define independent risk factors associated with early (6 weeks) vs. late thrombo-embolic events.

RESULTS: VTE during puerperium occurred in 81 women, and in 235 within at least 10 years after the puerperium. Patients encountered VTE during the puerperium had more PE events (n=16, 19.8%) and less DVT events (n=42, 51.9%), compared with the late VTE group (PE n=15, 6.4%; DVT n=159, 67.7%; p<0.001).

While baseline characteristics of the two VTE groups were similar (table), women undergoing cesarean section (CS) in the delivery preceding the VTE were more likely to develop early VTE (OR=1.8, 95% CI=1.05-3.2, P=0.032). Using a multivariate analysis, controlling for confounders such as maternal age, CS was noted as an independent risk factor for early vs. late VTE (adjusted OR=1.9; 95% CI 1.1-3.5; p=0.023).

CONCLUSION: The risk profile of both earlier and late VTE are similar, except for cesarean section which is an independent risk factor for early (vs. late) VTE. Women encountered venous thrombo-embolic event during the puerperium are more likely to suffer from pulmonary emboli than women encountering VTE after the puerperium.

Index pregnancy characteristics by time of VTE occurrence

variable	In puerperium (n=81)	After puerperium (n=235)	P value
Cesarean section	34.6%	20.9%	0.013
Recurrent abortions	7.4%	7.7%	0.941
Maternal age	31.3±6.2	31.1±6.4	0.816
Gestational diabetes mellitus	7.4%	9.4%	0.594
Hypertensive disorders	12.3%	12.3%	0.99
Placental abruption	2.5%	1.3%	0.458
Low birth weight (<2500)	13.6%	13.2%	0.929

113 Placenta accreta in a previous pregnancy and its significance on subsequent births

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OBJECTIVE: To investigate the perinatal outcomes of women that had a placenta accreta in a previous pregnancy.

STUDY DESIGN: We retrospectively compared all subsequent singleton cesarean deliveries (CD) of women with a previous placenta accreta, with CD of women with no such history, during the years 1988-2011.

RESULTS: Out of 34,567 singleton CD that occurred during the study period, 0.1% (n=30) were of women with a previous placenta accreta. Recurrent placenta accreta occurred in 23.3% (7/30) of patients with placenta accreta in their previous pregnancy. Previous placenta accreta was significantly associated with uterine rupture, peripartum hysterectomy and the need for blood transfusions. Nevertheless, increased risk for adverse perinatal outcomes such as low Apgar scores at 5 minutes and perinatal mortality was not found in these patients (table).

CONCLUSION: A pregnancy following a previous placenta accreta is at increased risk for adverse maternal outcomes such as recurrent accreta, uterine rupture and peripartum hysterectomy. However, adverse perinatal outcomes are not demonstrated.

Selected pregnancy and perinatal outcomes of patients with and without a previous placenta accrete

	Previous placenta accreta (n=30)	No previous accreta (n=34567)	OR	95% CI	P
Uterine rupture	3.3	0.3	9.9	1.348-73.810	0.005
Hysterectomy	3.3	0.2	18.02	4.18-134.151	<0.001
Blood transfusions	16.7	4.0	4.8	1.827-12.505	<0.001
Placenta previa	6.7	2.8	2.5	0.599-10.593	0.19
Preterm delivery (<37wks)	26.7	18.4	1.6	0.72-3.635	0.24
Low birth weight (<2500gr)	20	17.1	1.2	0.495-2.963	0.67
Apgar5<7	3.3	3.2	1.1	0.144-7.753	0.96
Perinatal mortality	3.3	1.9	1.8	0.245-13.217	0.56

Data are presented as percentages.

114 A proportion score of pelvic and neonatal head circumference is highly predictive of instrumental delivery and cesarean section due to cephalo-pelvic disproportion

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OBJECTIVE: To evaluate the risk for instrumental delivery (ID) and cesarean section due to cephalo-pelvic disproportion (CS-CPD), according to maternal pelvic CT parameters, and neonate weight and head circumference.

STUDY DESIGN: We studied patients who delivered at term a singleton fetus in vertex presentation, and had underwent an abdominal CT in our institution. Pelvimetry was performed retrospectively. We analyzed the relation between maternal pelvic parameters, neonatal weight and head circumference (HC), and the mode of delivery.

RESULTS: We enrolled 111 cases: 84 patients had NVD, 7 had ID and 20 had CS-CPD. The neonatal HC was significantly larger in ID and CS-CPD in comparison to NVD (34.9±1.1, 34.9±2.5 and 33.8±1.7 cm, respectively, p=0.03). The transverse diameter of the mid pelvis was significantly smaller in ID and CS-CPD in comparison to NVD (9.5±1.1, 9.8±0.9 and 10.4±0.8 cm respectively, p=0.002). We expressed the composed A-P and lateral parameters of the pelvic inlet, mid and outlet, with a "naive formula" of estimated ellipse circumference (EEC). The mid pelvic EEC was significantly smaller in ID and CS-CPD in comparison to NVD (32±2.6, 33.5±3.5 and 34.8±2.3 cm

respectively, $p=0.034$). We used the ratio between the pelvic EEC and HC to express a proportion score (PS) for CPD. The PS was significantly smaller in ID and CS-CPD, in comparison to NVD, in all pelvic levels: inlet (1.08 ± 0.1 and 1.09 ± 0.1 VS 1.15 ± 0.08 , $p=0.006$); mid (0.92 ± 0.09 and 0.97 ± 0.1 VS 1.03 ± 0.08 , $p=0.0003$); and outlet (0.77 ± 0.04 and 0.81 ± 0.07 VS 0.84 ± 0.08 , $p=0.011$). ROC analysis showed that a mid pelvis PS of 1 had a 68% sensitivity, 58% specificity and a positive predictive value of 89% for CS-CPD.

CONCLUSION: Low proportion score of maternal pelvic parameters and neonate head circumference, is highly correlated with ID and CS-CPD.

115 Placental abruption as a marker for long term cardiovascular mortality: a follow up period of more than a decade

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OBJECTIVE: To investigate the risk for subsequent cardiovascular events in women having placental abruption, during a follow-up period of more than 10 years.

STUDY DESIGN: A population-based study comparing consecutive pregnancies of women with and without placental abruption was conducted. Deliveries occurred during the years 1988-1999 and had a follow up until the year 2010. Associations between placental abruption and maternal long-term cardiovascular hospitalizations, morbidity and mortality were investigated. Multivariable analysis was used to control for confounders.

RESULTS: During the study period, there were 47,909 deliveries who met the inclusion criteria, of these 1.4% ($n=653$) occurred in patients with placental abruption. No significant differences were noted regarding subsequent long term hospitalizations due to cardiovascular causes during at least a decade of follow-up (OR= 1.2, 95% CI 0.8-1.8, $P=0.314$), as well as regarding invasive procedures (OR= 1.5 95% CI 0.7-3.3, $P=0.312$; table). However, placental abruption was noted as a risk factor for long term cardiovascular mortality (OR= 6.6, 95% CI 2.3-18.4, $P=0.004$). The case fatality rate for placental abruption was 13.0% vs. 2.5% in the comparison group. ($P<0.001$). In a multivariate logistic regression model, after controlling for confounders such as ethnicity and maternal age, placental abruption was noted as an independent risk factor for maternal long-term cardiovascular mortality (adjusted OR= 4.5; 95% CI-1.1-19.1, $P=0.041$).

CONCLUSION: Placental abruption is a significant risk factor for long-term cardiovascular mortality in a follow-up period of more than a decade.

Subsequent cardiovascular events in women having placental abruption

	Placental abruption (n= 653)	No abruption (n= 47265)	P value
Cardiovascular hospitalizations	4.4%	3.7%	0.314
Invasive cardiovascular procedures	0.9%	0.6%	0.312
Cardiovascular mortality	0.6%	0.1%	0.004

116 Giving birth to a small for gestational age infant is a risk factor for long-term maternal cardiovascular morbidity

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OBJECTIVE: To investigate whether women with a prior occurrence of small-for-gestational-age (SGA) are at an increased risk for subsequent long term maternal cardiovascular morbidity.

STUDY DESIGN: A population-based study comparing consecutive pregnancies of women with and without a previous delivery of a SGA neonate was conducted. Deliveries occurred during the years 1988-1999, with a follow-up period until 2010. Incidence of long-term cardiovascular morbidity was compared between women with SGA neonate and women who gave birth at the same period to an appropriate for gestational age neonate. Logistic regression was conducted to obtain adjusted odds ratios (AOR) and 95 % confidence intervals (CI) for the association between SGA and subsequent cardiovascular morbidity.

RESULTS: During the study period 47612 deliveries met the inclusion criteria; 9.3% ($n=4411$) occurred in patients with a prior occurrence of SGA. Women with a prior occurrence of SGA had higher rates of long term complex cardiovascular events such as congestive heart failure, cardiac arrest etc. (OR= 2.3; 95% CI 1.3-4.4, $P=0.006$) and long term cardiovascular mortality (OR= 3.4; 95% CI 1.5-7.6, $P=0.006$; table). Using a multivariable logistic regression model, controlling for confounders such as maternal age and ethnicity, having delivered a SGA neonate was noted as an independent risk factor for long-term maternal cardiovascular hospitalizations (AOR= 1.4; 95% CI-1.1-1.6, $P<0.001$).

CONCLUSION: Delivery of a previous SGA infant is an important predictor of long-term maternal cardiovascular morbidity during a follow-up period of more than a decade.

Long term cardiovascular morbidity and mortality in patients with and without a prior occurrence of SGA

	Delivered SGA (n= 4411)	No SGA (n= 47.612)	OR	95% CI	P value
Complex cardiovascular events	0.3%	0.1%	2.3	1.3-4.4	0.006
Cardiovascular mortality	0.2%	0.1%	3.4	1.5-7.6	0.006
Invasive cardiovascular procedures	0.5%	0.4%	1.2	0.8-1.9	0.329

117 Misoprostol for treatment of intrauterine fetal death at 14-28 weeks of pregnancy

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OBJECTIVE: To systematically assess whether misoprostol has high safety and effectiveness for the treatment of intrauterine fetal death at 14-28 weeks of pregnancy and to help establish the best dose of misoprostol for this purpose.

STUDY DESIGN: This double-blind trial randomized 153 women, 14-28 weeks gestation, into two groups. Women received either 100mcg buccal misoprostol (Group 1) or 200 mcg buccal misoprostol (Group 2) every 6h for a maximum of 8 doses. The primary outcome was successful evacuation within 48h.

RESULTS: The 200mcg dose was significantly more effective than the 100 mcg dose at evacuating the uterus within 48h (Group 1: 66.7%; Group 2: 84.2% (RR 0.79 (95%CI: 0.65-0.95)). The mean time to evacuation was significantly shorter in Group 2 (18.9h + 11.9h) than Group 1 (24.0 + 12.4h) ($p=0.03$). The side effect profile was similar in the two groups. Few women reported nausea (Group 1: 19%; Group 2: 24%), vomiting (Group 1: 10%; Group 2: 16%), chills (Group 1: 24%; Group 2: 21%) or headache (Group 1: 16%; Group 2: 21%). However, significantly more women in the 200mcg group reported diarrhea