STUDY DESIGN: Patients were assigned to one of four protocol stages based on the degree of blood loss: Stage 0: normal ante/postpartum assessment; Stage 1: bleeding greater than expected for vaginal delivery (500mL) or C-section (1000mL); Stage 2: bleeding not responding to conservative measures, and required physician presence, and Stage 3: blood loss in excess of 1500mL. Interventions and transfusion recommendations were specific to the patient's stage of blood loss. Two time periods were compared: a 2-month baseline, and a second 2-month assessment 6 months after system-wide implementation of the CHP. A dedicated perinatal nurse specialist at each facility prospectively collected outcomes data.
RESULTS: There were 20,890 deliveries during the two study periods. Relative to baseline, there was a significant reduction in blood product utilization ($p = 0.04$), pRBCs 22.4%, platelets 31.4%, FFP 43.2% and cryoprecipitate 58.1%. The number of patients that required ≥4 units of pRBCs was reduced by 88%. There was a concomitant 50% reduction in the number of patient that required puerperal hysterectomy ($p = 0.01$).
CONCLUSION: Utilization of a CHP in a large health care system significantly reduced the number of blood products despite the fact that the protocol prescribed early transfusion. Further, there was a reduction in the severity of maternal hemorrhage, and the rate of puerperal hysterectomy. These findings suggest that protocol interventions reduced the need for aggressive surgical treatment and reduced maternal morbidity. These data support the implementation of systematic treatment protocols directed towards prevention and treatment of maternal hemorrhage.

85 Vaginal versus ultrasound examination of fetal occiput position to help labor management: a randomized trial

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OBJECTIVE: Ultrasound examination is more accurate than vaginal examination in the determination of fetal occiput position during labor. To evaluate if this better accuracy reduces the rate of instrumental deliveries and cesarean sections (CS).
STUDY DESIGN: This open-label randomized controlled trial took place at Poissy Saint-Germain Hospital between January 2005 and November 2010. Inclusions criteria were: singletons at 37 WG or more in vertex presentation, a cervical dilation > 8 cm, a written informed consent. Exclusion criteria were a previous CS or an obstetrical disease. Women were randomly assigned in a 1:1 ratio between transabdominal ultrasound or usual vaginal examination for determination of the fetal occiput position. Patients diagnosed with occiput posterior or transverse position underwent a trial of manual rotation of the fetal occiput. The primary outcome was a composite criterion including CS performed after a cervical dilation > 8 cm and instrumental deliveries.
RESULTS: Maternal characteristics of the 944 women in the ultrasound examination (UE) group and the 959 women in the vaginal examination (VE) group were as followed: median maternal age [Q1-Q3] 30 [27-33] and 30 [27-34] years, median gestational age [Q1-Q3] 40+1 [39+2-40+6] and 40+1 [39+1-40+6] WG, rate of nullipara 60.6% and 55.6%, rate of occiput posterior positions 21.6% and 15.8%, respectively. The primary outcome was significantly higher in the UE group: 33.6% vs 27.1% in the VE group ($p = .002$), as was the rate of CS: 7.8% vs 4.9% in the VE group ($p = .01$). There was a non significant increase in the rate of instrumental deliveries in the UE group 25.8% vs 22.2% in the VE group ($p = .06$). The neonatal outcomes were similar, even when the analysis was restricted to the neonates born after instrumental delivery.
CONCLUSION: Ultrasound determination of fetal occiput position to help labor management increases the rate of CS, possibly by knowledge with certainty of the occiput posterior position and of its risk of dystocia.

86 SGA recurrence: analysis of first and subsequent singleton pregnancies in the Netherlands, 1999-2007

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OBJECTIVE: Patterns of recurrence of restricted fetal growth are important for patient counseling and adequate care in subsequent pregnancies. Our objective was to study the recurrence rate of small for gestational age (SGA) neonates.
STUDY DESIGN: We performed a prospective national cohort study using the Netherlands Perinatal Registry. The study population comprised all women with a first and subsequent pregnancy between 24+0 and 42+6 weeks gestation between 1999 and 2007. Multiple gestations and fetuses with structural or chromosomal abnormalities were excluded. SGA was defined as birth weight below the 5th percentile. The Dutch reference curves for birth weight by gestational age separate for parity, sex and ethnic background were used. Cases were categorized by gestational age at delivery in the first pregnancy; very preterm (24+0-31+6wks), preterm (32+0-36+6wks) and term (37+0-42+6wks). We compared the recurrence rate of SGA in the second pregnancy in women with and without SGA in their first pregnancy. Moreover, we assessed the incidence and recurrence rate of SGA in women with and without a hypertensive disorder (HTD) in their first pregnancy.
RESULTS: We studied 259.481 pregnant women, of which 12.943 (5.0%) had an SGA baby in their first pregnancy. The overall risk of SGA recurrence was 23% , the risk of de novo SGA in the second pregnancy was 3.4% (Odds Ratio (OR) 8.5, 95% Confidence interval (CI) 8.1-8.9). The risk of SGA recurrence in HTD women was smaller than in non-HTD women (21.0% vs 23.7%, OR 0.86, 95% CI 0.77-0.95). However, the risk of de novo SGA in the second pregnancy was higher for HTD women than for non-HTD women (4.1% vs. 3.4% OR 1.2 95%CI 1.2-1.3).
CONCLUSION: Women with SGA in their first pregnancy have a strongly increased risk for SGA in subsequent pregnancies. The SGA recurrence rate is smaller for women with a HTD in their first pregnancy than for women without a HTD. The risk on de novo SGA in the second pregnancy however, is higher in the HTD group than in the non-HTD group.

SGA recurrence rate in HTD and non-HTD women (Netherlands Perinatal Registry, 1999-2007)

	Birthweight ≤P5 recurrence	De novo birthweight ≤P5 in 2nd pregnancy			
	N (%)	N (%)	Odds ratio	95% CI	p-value
Total group	2.996 (23.2)	8.482 (3.4)	8.5	8.1-8.9	<0.0001
Group with hypertensive disorder in first pregnancy					
All deliveries in HTD group	598 (21.0)	1.223 (4.1)	6.2	5.6-7.0	<0.0001
Very preterm delivery: (GA 24+0 - 31+6 wks)	16 (16.2)	95 (12.2)	1.4	0.78-2.5	0.26
Late preterm delivery (GA 32+0 - 36+6 wks)	115 (24.0)	233 (7.3)	4.0	3.1-5.1	<0.0001
Term delivery (GA 37+0 - 42+6 wks)	476 (20.6)	895 (3.5)	7.3	6.4-8.2	<0.0001
Group without hypertensive disorder in first pregnancy					
All deliveries in non-HTD group:	2.398 (23.7)	7.259 (3.4)	9.0	8.5-9.5	<0.0001
Very preterm delivery: (GA 24+0 - 31+6 wks)	29 (23.4)	106 (6.0)	4.8	3.0-7.6	<0.0001
Late preterm delivery: (GA 32+0 - 36+6 wks)	137 (30.2)	535 (4.3)	9.6	7.7-11.2	<0.0001
Term delivery: (GA 37+0 - 42+6 wks)	2.232 (23.4)	6.618 (3.3)	9.1	8.6-9.6	<0.0001