STUDY DESIGN: Fetal ultrasound was performed within 48 hours of delivery on term fetuses in women admitted to Sinai Hospital of Baltimore. Clinical estimates of fetal weight were obtained by attending and resident physicians. These estimates were then compared to the actual birthweight after delivery.

RESULTS: We analyzed 47 of 51 recruited women. The median age was 28 years, median gestational age was 40 weeks, median BMI was 29.7 with 50% of patients between 26 and 32.8 kg/m² and the mean birthweight was $3,451 \pm 343$ grams. There were 47% African American and 51% Caucasian women. The majority of patients were nuliparous (53%). The clinical fetal weight estimates by the attendings correlated better with the birthweight than did the resident's ((Pearson correlation 0.49 vs. 0.20). When attendings and residents estimated fetal weight on the same patient, only attendings' estimates were significant, r = 0.46 (p = 0.01). Clinical estimates consistently overestimated birthweight at lower values and underestimated it at higher values (Figure). Multiple regression adjusting for maternal parity, age and BMI demonstrated that ultrasound correlated better with birthweight than clinical estimates (0.73). Attending but not resident estimates were significantly associated with birthweight in the model. Experience with ultrasound increased the correlation with birthweight (Pearson correlation 0.68 first half vs 0.79 second half). Various published equations for calculating fetal weight using different biometric parameters found that Hadlock '85 formula with BPD, HC, AC and FL was the best predictor (Table).

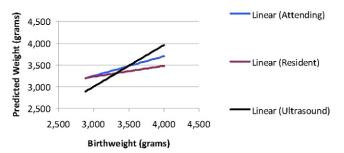
CONCLUSION: Ultrasound was the best method to predict birthweight. Physician experience improves clinical prediction. No formula to predict fetal weight was better than the Hadlock '85 formula that includes cephalic, abdominal and femoral measurements.

Multivariate models for predicting birthweight

Method	·	R	R-square	P-value
Clinical				
	Attending	0.37	0.28	< 0.01
	Resident	0.10	0.01	0.07
Ultrasound	Hadlock 1985: HC, BPD, AC, FL	0.56	0.52	< 0.01
	Hadlock 1985: AC, FL	0.56	0.51	<0.01
	Hadlock 1985: BPD, AC, FL	0.56	0.51	<0.01
	Woo 1985: AC, FL	0.55	0.50	<0.01
	Sheppard 1982: BPD, AC	0.53	0.49	<0.01

AC, abdominal circumference; BPD, biparietal diameter; FL, femur length; HC, head circumference.

Birthweight Prediction



101 Does placenta previa location matter? Surgical morbidity associated with previa location

Brett Young¹, Allan Nadel¹, Britta Panda¹, Anjali Kaimal¹ ¹Massachusetts General Hospital, Obstetrics-Gynecology, Boston, MA **OBJECTIVE:** To evaluate the effect of placenta previa location (anterior versus posterior) on surgical morbidity in primary and repeat cesarean deliveries.

STUDY DESIGN: Retrospective cohort undergoing cesarean for placenta previa. The rate of operative morbidity for women with an anterior previa was compared to women with a posterior previa. Stratified analysis was performed based on primary versus repeat cesarean. Logistic regression was performed to control for potential confounders. **RESULTS:** 48,229 women delivered during the study timeframe. 285 women (0.6%) underwent cesarean delivery for placenta previa. 42 (14.5%) women received a hysterectomy or blood transfusion.

The anterior and posterior previa groups were similar with respect to age, tobacco use and BMI. Women with an anterior previa were more likely to have a prior cesarean delivery, be multiparous and have a singleton gestation compared to women with a posterior previa. The mean blood loss during cesarean was higher for women with an anterior previa (p=0.0005) compared to those with a posterior previa. Women with an anterior previa were more likely to require a blood transfusion (p=0.014) and to undergo hysterectomy (p=0.0001). Consistent with prior studies, women undergoing repeat cesarean had higher likelihoods of hysterectomy (OR 9.8, 95% CI 3.1-31.5), blood transfusion (OR 2.1, 95% CI 1.0-4.2) and accreta (OR 5.3, 95% CI 2.1-13.4). In stratified analysis, primary cesareans with anterior previa had higher rates of blood transfusion (aOR 3.09; 95% CI: 1.16-8.17) and hysterectomy (p=0.001) than posterior previas. Women undergoing repeat cesarean with anterior previa had higher rates of hysterectomy (aOR 4.72; 95% CI 1.12-19.78) compared to those with posterior previa.

CONCLUSION: Compared to a posterior placenta previa, an anterior previa increases the risk of hysterectomy for both primary and repeat cesareans and increases the likelihood of blood transfusion at primary cesareans. This information may be useful for pre-operative planning.

Subgroup analysis of operative morbidity based on cesarean order and placental location

Primary Cesarean					Repeat Cesarean					
	Anterior	Posterior	P-Value	Unadjusted OR	Adjusted	Anterior	Posterior	P-Value	Unadjusted	Adjusted
	Previa	Previa	1 - value	OR	OR	Previa	Previa	- varac	OR	OR
Blood	10	14	0.057	2.3	3.09	9	7	0.272	1.75	1.67
Transfusion	(18.5%)	(9.0%)	0.037	(0.96-5.55)	(1.16-8.17)	(26.5%)	(17.1%)	0.575	(0.57-5.33)	(0.53-5.23)
Hysterectomy	4	0 (00%)	0.001			9	2 (7 20%)	0.024	4.56	4.72
	(7.4%)	0.001			(26.5%)	3 (7.5%)	0.024	(1.12-18.5)	(1.12-19.78)	

Data presented as: N (%) or odds ratios (95% confidence interval). Regression covariates: BMI, age, multiple gestation.

102 Postpartum elevation of Toll-like receptor 1: innate immune system activation persists beyond the prototypical postpartum period

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OBJECTIVE: Toll-like receptors are important mediators of the innate immune system that recognize structurally conserved protein sequences that are expressed by specific microorganisms. TLR 1 recognizes triacyl lipoproteins which are specifically expressed by bacteria. Immune system dysfunction may be causal or serve as a stimuli to preterm labor. There is limited information regarding basal expression of TLR 1 during pregnancies not affected by preterm labor. In this study, our objective was to investigate whether TLR 1 expression in healthy pregnant women changes longitudinally during a pregnancy and postpartum.

STUDY DESIGN: We prospectively evaluated TLR expression in dendritic cells (DCs) of 20 healthy women during the 1st trimester (Collection 1), 2nd trimester (Collection 2), the day of delivery (Collection 3) and 6 weeks postpartum (Collection 4). TLR1/2 expression on DCs was measured by multicolor flow cytometry. TLR levels from each collections were compared to non-pregnant controls and to the postpartum collection. ANOVA and T-tests were used to assess statistical significance.

RESULTS: Basal expression of TLR 1 was elevated throughout pregnancy in all trimesters and the postpartum collection relative to a