198 THE EFFECT OF OBESITY ON POSTPARTUM HEMORRHAGE IN LOW RISK PRIMIGRAVID WOMEN

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OBJECTIVE: Obesity in pregnancy is associated with increased maternal morbidity. Prior studies have found conflicting results with regards to the effect of obesity on postpartum hemorrhage (PPH). We speculate that these conflicting results could be due to confounding co-morbidities in the studied pregnant populations. To better isolate the effects of obesity on PPH, we decided to study primigravid women without other chronic medical conditions.

STUDY DESIGN: In a secondary data analysis of a prospective study, we identified 111 primigravid women with no preexisting medical conditions, singleton pregnancies, and body mass index (BMI) assessment at 20 weeks gestation. The women were then grouped according to their BMI as follows: normal weight- 18.5-24.9 kg/m^2, overweight- 25.0-29.9 kg/m^2, obese- ≥30.0 kg/m^2. Chi-square and Cochran-Armitage trend tests were performed to assess the association between BMI and pregnancy outcomes of interest; PPH, cesarean delivery, and preeclampsia.

RESULTS: Of the 111 subjects, 44% were normal weight, 36% were overweight, and 20% were obese. Postpartum hemorrhage occurred in 8% normal weight, 10% overweight, and 27% obese subjects (test for trend p=0.0213). Similarly, we found a positive association between BMI and cesarean delivery (p=0.0493) and preeclampsia (p=0.0534).

CONCLUSION: Obesity increases the risk of postpartum hemorrhage in primigravid pregnant women without other chronic medical conditions.

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199 VALIDATION OF A PREDICTION MODEL OF SUCCESSFUL TRIAL OF VAGINAL BIRTH AFTER CESAREAN (VBAC)

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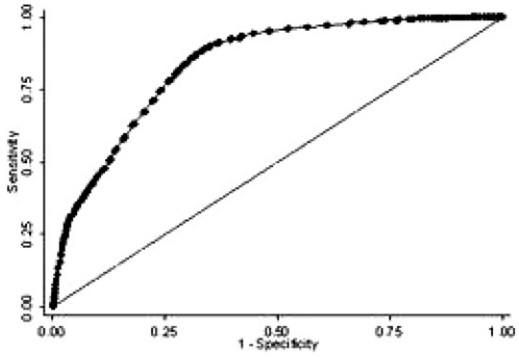
OBJECTIVE: Clinical prediction models are only useful if their ability to predict outcomes is consistent across populations. Thus, we sought to validate the predictive ability of a published prediction model for VBAC success in a different population

STUDY DESIGN: Within a multicenter, retrospective cohort of 25,005 women with at least one prior cesarean, we sought to validate the model for prediction of VBAC success constructed from data from the MFMU Network study (Grobman et al). Using the coefficients of the logistic regression solution from the published model, a unique predictor for VBAC success was created for all women in our cohort who attempted VBAC based on maternal age, race, prior vaginal delivery and timing, and recurrent cesarean indication. Logistic regression and receiver-operator characteristic analysis was used to estimate the accuracy of prediction. The error estimates for the coefficients were used to calculate the minimum and maximum estimates of predictive accuracy for VBAC success

RESULTS: In the cohort of 13,706 patients attempting VBAC, the model-derived predictor was significantly associated with VBAC success (AUC=0.84, 0.83-0.85 [min-max], p<0.01). The model was most accurate with a sensitivity of 93.6% and a specificity of 58.0%, correctly classifying 85% of patients in the cohort with respect to VBAC success (N=9,763/10,334)



CONCLUSION: The validity of the recently published predictive model for VBAC success was supported in this large, multicenter cohort

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200 VALIDATION OF A SCORING SYSTEM TO IDENTIFY WOMEN WITH NEAR-MISS MATERNAL MORBIDITY

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OBJECTIVE: Geller et al have proposed a scoring system to identify parturients who come close to experiencing maternal death (i.e. near-miss morbidity). The accuracy of this system has not been described in a patient population other than the one in which the system was established. The objective of this study was to assess and validate the scoring system in a different patient population.

STUDY DESIGN: This study was conducted in a high volume, urban, tertiary care hospital over a 2 year period. Women with a high potential for significant obstetric morbidity were identified, their complete medical record was obtained, and a narrative summary of their hospital course was prepared. The summary was reviewed by an obstetrician and the degree of morbidity was characterized into one of the following 4 categories: none, minor morbidity, severe morbidity, or near miss morbidity. The same cases were then scored utilizing the five factor scoring system developed by Geller et al in which points are assigned based on organ system failure, extended intubation, ICU admission, transfusion, and surgical intervention.

RESULTS: Eight hundred and fifteen cases of women with a high potential for significant morbidity were identified. Obstetric review of these cases identified 189 (23.2%) with no morbidity, 425 (52.1%) with minimal morbidity, 157 (19.2%) with severe morbidity, and 38 (4.6%) with near-miss morbidity. When these cases were instead categorized based on the Geller scoring system 34 (4.2%) of the cases where categorized as near-miss morbidity. Thus, in our population the sensitivity, specificity, positive predictive value and negative predictive value of the 5 factor scoring system were 63.2%, 98.7%, 70.5% and 98.2% respectively.

CONCLUSION: In our population, the Geller scoring system had excellent specificity and reasonable sensitivity for identifying near-miss morbidity. Further research may determine if additional factors will help capture those cases of near-miss morbidity that were not identified by the 5 factor system.

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201 EVALUATING IN-SITU SIMULATION AND TEAM TRAINING ON RESPONSE TO SHOULDER DYSTOCIA

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OBJECTIVE: Recognition and expedient response to shoulder dystocia are important to preventing neonatal morbidity and mortality. We conducted a multicenter study to evaluate in-situ simulation and team training for shoulder dystocia.

STUDY DESIGN: Experienced clinical teams from six Oregon hospitals participated in this study. All teams responded to a simulated shoulder dystocia (SD) between Fall 2006 - Spring 2007 (before) and nine to twelve months later (after). Simulations were reviewed using a structured evaluation tool. Team performance was compared using a paired T-test.

RESULTS: 22 paired cases were available for analysis. There was a non-significant decrease in the time from onset of SD to the performance of the McRoberts maneuver, suprapubic pressure, and delivery of the infant. The time for performing a Woods' screw or Rubin maneuver was significantly decreased. There was a trend toward improved response times at baseline among teams who received team training prior to the shoulder dystocia. Their times improved from 1.5 to 24.1 seconds depending on recogntion of SD or maneuver performed. There was a wide variety and order of other maneuvers such as internal rotation, posterior arm, Gaskins, and Zavanelli. Prior to training 22.7% of the teams performed McRoberts, suprapubic, internal rotation, and delivery of the posterior arm compared to 45.5% of the teams following training (p=0.11).

CONCLUSION: Simulation and team training may improve shoulder dystocia responses among experienced clinical teams.

Difference before and after training	No. Pair	Mean Diff (Seconds)	P value
Time to SD recognition	22	-14.3	0.09
Time to McRoberts (1st)	19	-16.7	0.08
Time to Suprapubic pressure (2nd)	17	-24.0	0.06
Time to Woods' screw or Rubin (3rd)	8	-28.8	0.04
Time to Delivery	21	-21.9	0.36

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