LEARNING OBJECTIVES: Learners will be able to identify the prevalence of congenital CMV infection in a prospective cohort study in Colombia.

26 Association of maternal hygiene behaviors and cytomegalovirus (CMV) serostatus

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OBJECTIVES: To examine whether maternal hygiene behaviors or risk-perception are associated with maternal cytomegalovirus (CMV) serostatus.

METHODS: Secondary analysis of a randomized controlled trial of the effect of behavioral intervention on hygiene-based compliance. All participants provided serum samples and completed surveys assessing maternal hygiene behaviors, anxiety, and risk perception for CMV infection prior to trial enrollment. The primary outcome of this analysis was CMV seropositivity (CMV IgG+). Chi-square or Fisher's exact test was used for categorical variables and student's T-test or Wilcoxon rank sum for continuous variables. Multiple step-wise logistic regression assessed the association of maternal hygiene behavior and risk perception with IgG seropositivity controlling for potential confounders including type of obstetric practice maternal age, ethnicity, race, household type, income level, educational level, and insurance status.

RESULTS: 195 women were enrolled: 99 (50.8%) were seronegative and 96 (49.2%) seropositive. The Behavioral Compliance or Risk-Perception scores were not associated with CMV IgG+ (aOR 0.94, 95% CI 0.69-1.28 and aOR 1.04, 95% CI 0.91 -1.19). Women with an annual household income of < $50,000 were 2.4 times more likely to be CMV IgG+ (aOR 2.41, 95% CI 1.14 -5.07). Women who identified as Black or African American were approximately 7 times more likely to be CMV IgG+ (aOR 6.94, 95% 2.42-19.86).

CONCLUSION: Maternal hygiene behaviors and personal risk perception were not associated with CMV IgG seropositivity. African American race and lower household income were associated with an increased likelihood of maternal CMV seropositivity suggesting that exposure to CMV may be more related to socioeconomic status than to hygiene behaviors. Further research is needed to determine the reason behind these risk disparities.

LEARNING OBJECTIVES: Listeners should be able to identify factors that influence CMV seropositive status.

27 Association between maternal obesity and group B streptococcus (GBS) colonization in a national US cohort

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OBJECTIVES: The association between obesity and group B streptococcus (GBS) colonization remains to be fully defined, and has implications for antibiotic prophylaxis in an era of increasing obesity prevalence and severity. We estimated the association between maternal pre-pregnancy body mass index (BMI) and GBS colonization.

METHODS: A secondary analysis of women who underwent a trial of labor from the Consortium on Safe Labor study. The exposure was maternal pre-pregnancy BMI, categorized as normal weight or below (<25 kg/m2), overweight (25 to <30 kg/m2), class I obesity (30 to <35 kg/m2), class II obesity (35 to <40 kg/m2), and class III obesity (≥40 kg/m2). The outcome was GBS colonization in pregnancy. Logistic regression with generalized estimating equations modeled the association while accounting for within-woman correlations. Models adjusted for maternal age, parity, race, pre-gestational diabetes, insurance status, study site/region, and year of delivery.

RESULTS: Among 228,438 pregnant women, 84.1% underwent a trial of labor, of whom 128,305 (66.8%) had available BMI data. With regards to BMI, 60.5% of women were classified as normal weight, 22.4% overweight, 10.0% class I obesity, 4.3% class II obesity, and 2.9% class III obesity. The overall prevalence of GBS colonization was 19.4% (24,992/128,305), which increased with rising maternal BMI. In multivariable analysis, increasing obesity severity as defined by BMI class was associated with higher odds of colonization with GBS, namely overweight (adjusted odds ratio, AOR: 1.09, 95% confidence interval, CI: 1.05 - 1.13), class I obesity (AOR: 1.20, 95% CI: 1.15 - 1.26), class II obesity (AOR: 1.42, 95% CI: 1.33 - 1.51), and class III obesity (AOR: 1.50; 95% CI: 1.38 - 1.62) compared to normal weight women.

CONCLUSION: This study, performed within a national US sample, identified a higher likelihood of maternal GBS colonization with increasing maternal BMI. This finding has implications for antibiotic prophylaxis to prevent neonatal sepsis in an era of rising obesity in pregnancy.

LEARNING OBJECTIVES: Upon completion of this session, the learner will describe trends in GBS colonization by BMI category.

28 Is group B streptococcus colonization associated with chorioamnionitis in an era of intrapartum antibiotic prophylaxis?

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OBJECTIVES: To assess whether colonization with group B streptococcus (GBS) is associated with chorioamnionitis in an era of routine intrapartum antibiotic prophylaxis.

METHODS: A secondary analysis of women who underwent a trial of labor from the U.S. Consortium on Safe Labor study. The primary exposure was colonization with GBS in pregnancy. The primary outcome was a diagnosis of chorioamnionitis in the medical record or billing code. Secondary outcomes included other infectious morbidities (antepartum urinary tract infection, and postpartum diagnoses of endometritis and incisional wound infection after cesarean). Logistic regression with generalized estimating equations modeled the associations while accounting for within-woman correlations. Models adjusted for maternal age, parity, race, pre-pregnancy body mass index, pre-gestational diabetes, insurance status, study site/region, and year of delivery.

RESULTS: Among 228,438 pregnant women, 192,074 (84.1%) underwent a trial of labor. A total of 6,470/192,074 (3.4%) of women had a diagnosis of chorioamnionitis, and 35,934 (18.7%) were colonized with GBS. The frequency of chorioamnionitis was lower among women colonized with GBS compared to those without (3.1% vs. 3.4%, p<0.001). In multivariable analysis, GBS colonization was associated with lower odds of chorioamnionitis (adjusted odds ratio, AOR: 0.90; 95% CI: 0.84 − 0.96). For secondary outcomes, the odds of antepartum urinary tract infection was higher with GBS colonization (AOR: 1.44; 95% CI: 1.36 − 1.53). GBS