Wisconsin Perinatal Quality Collaborative (WisPQC)

Tuesday, September 15, 2020
WisPQC Summit Poster Session

Vancomycin for Intrapartum Antimicrobial Prophylaxis for Group B Streptococcus: Is a Dose Increase Necessary?

Primary Author: Name: Sarah Gnadt, PharmD, BCPS
Organization: Lead Pharmacist, OB
Email: sarah.gnadt@unitypoint.org

Additional Authors: Kristin Stoll, PharmD; Steve Ebert, PharmD, FCCP, FIDSA, BCIDP

Faculty Disclosure: Nothing to disclose

Introduction: Group B streptococcus (GBS) is the leading cause of neonatal sepsis. In 1996, the first guideline on intrapartum antimicrobial prophylaxis for women colonized with GBS was published. Since then, the incidence of GBS early onset disease (EOD) has declined to 0.23 newborns per 1000 live births in 2015. In 2019, the American College of Obstetricians and Gynecologists issued an updated version of this guideline and recommended vancomycin 20 mg/kg every 8 hours for intrapartum antimicrobial prophylaxis (IAP), which exceeds daily dose of vancomycin known to cause nephrotoxicity.

Hypothesis: The current dose of vancomycin for IAP results in higher-than-anticipated rates of GBS EOD.

Methods/design: Charts were reviewed to identify patients who received vancomycin for IAP between January 1, 2018 and June 27, 2019. Maternal charts were reviewed retrospectively for maternal characteristics, intrapartum risk factors for GBS EOD, additional antibiotics, mode of delivery, and vancomycin dosing. Neonatal charts were reviewed retrospectively for mortality, infection, and level of care.

Results: A total of 73 maternal charts and 74 neonatal charts were reviewed. The majority of women who received vancomycin for IAP received a dose of 1000 mg every 12 hours and received 1-2 doses prior to delivery. On average, maternal patients weighed 94 kg and received 11.3 mg/kg/dose of vancomycin. 78.4% of neonates received standard care in the newborn nursery. There were no cases of GBS EOD or death in the neonates studied.

Conclusions: Given the rates of GBS EOD in 2015, the current dose of vancomycin for IAP did not result in higher-than-anticipated rates of GBS EOD. Although small pharmacokinetic studies reveal that higher maternal serum and cord blood levels are obtained with the use of higher doses, the clinical outcomes seen in the neonatal population studied do not provide a compelling indication for higher IAP vancomycin doses. The lack of mechanistic and clinical evidence to support the recommendation for higher IAP vancomycin doses, in combination with the greater risk of maternal nephrotoxicity, justifies not increasing the dose of vancomycin for IAP at this time.