

Intrapartum Antibiotic Prophylaxis for Group B Streptococcus in Mothers with Penicillin Allergy

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BACKGROUND: Pregnant women who are known carriers of Group B Streptococcus (GBS) are treated with prophylactic penicillin (PCN) or ampicillin during labor to prevent neonatal GBS infection. Per CDC guidelines, mothers with mild to moderate PCN allergy should instead receive cefazolin, also considered adequate prophylaxis. Anecdotally however, PCN allergic mothers are often treated with alternative antibiotics that are considered inadequate GBS prophylaxis. This may impact infant management and outcome.

OBJECTIVE: To determine the frequency of inadequate GBS prophylaxis with vancomycin or clindamycin in pregnant women with PCN allergy and investigate resulting differences in neonatal management.

METHODS: This retrospective cohort study included women with GBS positive or unknown status who had a vaginal delivery or cesarean section after trial of labor at >35 weeks gestation at a tertiary care hospital (2005-2018). Management of women who reported PCN allergy was compared to women without PCN allergy. Outcomes included antibiotic type (adequate prophylaxis defined as PCN, ampicillin, or cefazolin; inadequate prophylaxis defined as vancomycin or clindamycin) and number of neonatal lab draws (complete blood count and C-reactive protein). χ^2 tests were used for categorical variables. Mann-Whitney U tests used for continuous variables.

RESULTS: Of 17,854 women-infant pairs meeting eligibility criteria, 14,754 had complete data. Of these, 14,351 (97.3%) were GBS positive and 403 (2.7%) were GBS unknown. 1,648 (11.1%) reported a PCN allergy, and of these women 22 (1.3%) reported a co-existing cephalosporin allergy. Among women with a PCN allergy (n=1,648), 80 (4.9%) received PCN or ampicillin, 308 (18.7%) received cefazolin, 521 (31.6%) received vancomycin, and 739 (44.8%) received clindamycin. Women with PCN allergy were more likely to receive inadequate GBS prophylaxis with vancomycin or clindamycin [1259/1648 (76.4%)] compared to women without a reported PCN allergy [128/13,106 (0.98%)], $p < 0.001$. There was no significant difference in the number of lab draws in infants of PCN allergic mothers who received inadequate IAP compared to infants of mothers who received adequate IAP (18.9% vs. 18.5%, $p = 0.44$).

CONCLUSIONS: In PCN allergic women, 76% received inadequate GBS prophylaxis due to type of antibiotic agent they received. There was no significant difference in the number of lab draws in infants of mothers who received inadequate IAP compared to infants of mothers who received adequate IAP. Interestingly, while 11.1% of our cohort reported a PCN allergy, the true incidence is estimated to be ~0.7-4%, the majority of whom could safely receive cefazolin. This suggests a potential role for prenatal PCN allergy testing as a means of reducing inadequate GBS prophylaxis.