Up to 15% of hospitalized patients report that they are allergic to penicillin. However, it is estimated that this label is either inaccurate or not indicative of a true IgE-mediated reaction in up to 90% of cases. Often, penicillin “allergies” consist of family history, non-allergic adverse reactions or confounders related to the patient’s underlying illness, or historical childhood events. Being labelled as penicillin allergic results in dramatic shifts in antibiotic use, with more frequent use of vancomycin, fluoroquinolones, and clindamycin, primarily. These alternative agents, as compared to beta-lactam therapy, may be associated with increased toxicity (kidney injury with vancomycin), collateral damage (C difficile infection with fluoroquinolones and clindamycin), and clinical failure which may result in increased length of stay and mortality.

Regarding intrapartum antibiotic prophylaxis in women colonized with Group B Streptococcus, penicillin and ampicillin have been proven efficacious in clinical trials and retain 100% susceptibility. The efficacy of alternative agents, such as cefazolin, clindamycin, and vancomycin, has not been proven in clinical trials. While cefazolin also retains 100% susceptibility and achieves high intra-amniotic concentrations, pharmacokinetic data regarding the ability of clindamycin (for which GBS resistance is significant*) and vancomycin to reach adequate levels in fetal circulation and amniotic fluid are limited. As such, it is crucial to accurately characterize (and correct) penicillin allergy records. A detailed medication history by itself may identify erroneous “allergies”, by either clarifying the reaction or identifying that the patient has safely received penicillins or cephalosporins previously (Hint: use the “Medications” -> “History” tabs in MiChart to quickly review past orders). The CDC also provides an algorithm for assessing patients with a history of antibiotic allergies (2nd page).

In addition, outpatients may be referred to the Michigan Medicine Allergy and Immunology clinic for penicillin skin testing (PST). Penicillin skin testing using the PRE-PEN® skin test antigen is FDA indicated for the assessment of penicillin allergy and has a 97-99% negative predictive value. ~95% of patients with a reported penicillin allergy have a negative PST and can thus be safely prescribed penicillins.

*Remember that clindamycin susceptibility in GBS is NOT guaranteed, with ~25-30% of isolates testing resistant. Susceptibility testing for clindamycin is necessary if clindamycin prophylaxis is appropriate.

FIGURE 8. Recommended regimens for intrapartum antibiotic prophylaxis for prevention of early-onset group B streptococcal (GBS) disease*

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The recommendations in this guide are meant to serve as treatment guidelines for use at Michigan Medicine facilities. If you are an individual experiencing a medical emergency, call 911 immediately. These guidelines should not replace a provider’s professional medical advice based on clinical judgment, or be used in lieu of an Infectious Diseases consultation when necessary. As a result of ongoing research, practice guidelines may from time to time change. The authors of these guidelines have made all attempts to ensure the accuracy based on current information, however, due to ongoing research, users of these guidelines are strongly encouraged to confirm the information contained within them through an independent source.

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