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GUIDANCE IN EVALUATING BETA-LACTAM ALLERGY IN PATIENTS RECEIVING INTRAPARTUM ANTIBIOTIC PROPHYLAXIS

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. [1] Being labelled as penicillin allergic results in dramatic shifts in antibiotic use, with more frequent use of vancomycin, fluoroquinolones, and clindamycin, primarily.[2-4] 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[5] which may result in increased length of stay and mortality.[6]

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.[7] 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).[7]

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 can be safely prescribed penicillins.[8]

*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.

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4. Trubiano JA, et al. Antimicrobial allergy 'labels' drive inappropriate antimicrobial prescribing: lessons for stewardship. J Antimicrob Chemother 2016;71:1715- 1722.
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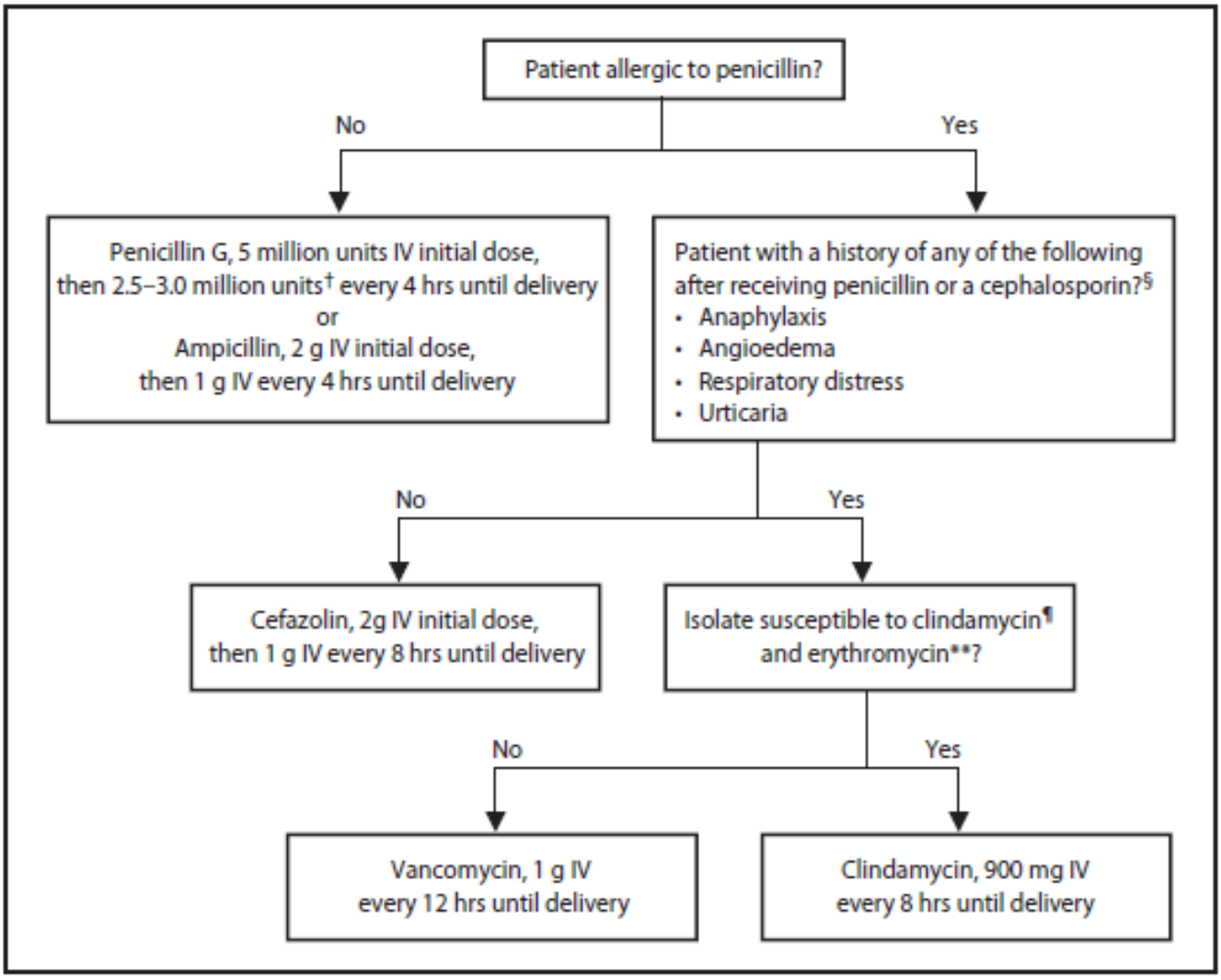
FIGURE 8. Recommended regimens for intrapartum antibiotic prophylaxis for prevention of early-onset group B streptococcal (GBS) disease*



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