

469

DEVELOPMENTAL ASPECTS OF AMPICILLIN

RENAL CLEARANCE IN INFANTS (B6) Julie Bagby, Edmund Capparelli, Adriana Tremoulet, Paige Pancoast, Erin Stucky. UCSD Medical Center, San Diego, CA (jbagby@ucsd.edu) IRB approval received.

Use of ampicillin in the treatment of suspected or proven sepsis in the neonate is a common practice. However, current dosing regimens are based on limited pharmacokinetic (PK) data from older children or from studies done in the early 1970s. The importance of understanding ampicillin PK is evidenced by its inclusion in the NIH and FDA's list of medications that require further studies to be in compliance with the Best Pharmaceuticals for Children's Act. The primary objective of this study is to analyze the population PK of ampicillin and characterize the developmental pattern of renal excretion of ampicillin in preterm and fullterm infants. The secondary objective is to correlate ampicillin excretion with gentamicin clearance as a marker of glomerular filtration. Eligible infants are those receiving ampicillin as part of their routine clinical care and less than 120 days postnatal age. Scavenged and timed blood samples are collected from infants receiving ampicillin and gentamicin. To date 21 infants have been enrolled with median gestational age 34.7 weeks, postnatal age 3 days, and weight 2376 grams. Ampicillin samples will be assayed by high performance liquid chromatography and concentration data will be used to build a population pharmacokinetic model. Completion of assay for ampicillin concentrations and subsequent

pharmacokinetics are currently ongoing. Results and conclusions to be presented.