

Study of Preterm Infants with Different Gestational Age: Modifying Amikacin Sulphate Dosage Regimen

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ABSTRACT

The study was performed to determine the gestational age of preterm infants that requires amikacin therapeutic drug monitoring. A study was conducted in preterm infants on amikacin therapy with gestational age of 28 to 36 weeks. Therapeutic drug monitoring in preterm infants was performed based on their individual pharmacokinetics to avoid ototoxicity and nephrotoxicity. Its prerequisite, because of their immunocompromised and challenging clinical conditions, to provide an effective and optimized dosage regimen. One compartment model was used to calculate pharmacokinetics and modulated amikacin dosage regimen based on obtained amikacin peak and trough concentration at 3rd dose.

Amikacin inadequate level, especially high trough found in 60 % patients were optimized for therapeutic level by tailoring dosage regimen. Correlation between percentage modification of dose and dosing time interval with percentage changes of amikacin peak and trough concentration at modulated dose was studied.