

ABSTRACT

Beta – lactam antibiotics level monitoring in febrile neutropenia patients and patients with sepsis.

Monitoring of antibiotic blood concentration in hemato-oncological patients was primary objective of this work. Monitoring of antibiotics level were done mainly in antibiotics used for gram-negative infections treatment (piperacilline, meropenem, ceftazidime) or for the treatment of febrile immunocompromised patient, usually neutropenic. For individual pharmacokinetics evaluation blood concentration were taken during the administration of prolonged antibiotics infusion. It was further used to create population model. Monte Carlo simulation was then used for creation of final model and for demonstration of pharmacokinetics/pharmacodynamics goals.

Pharmacokinetics/pharmacodynamics goals were primary aim of whole study for different antibiotics during the use in stable hemato-oncological patients but also critical patients. Clinical data were used for further study, where we proved high clinical efficacy of high dose ceftazidime in the treatment of extended drug resistant *Pseudomonas aeruginosa* infection in hemato-oncological patients.