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THANAWAT TOSUKHOWONG : PHARMACOKINETIC OF INTRAPERITONEAL CEFAZOLIN AND GENTAMICIN IN THE EMPIRICAL THERAPY OF PERITONITIS IN CONTINUOUS AMBULATORY PERITONEAL DIALYSIS PATIENTS.
THESIS ADVISOR : PROF. SOMCHAI EIAM-ONG. THESIS CO-ADVISOR : ASSOC. PROF. DUANGCHIT PANOMVANA NA AYUDHYA, Ph.D. 96 pp.
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This study was aimed to study the pharmacokinetic of cefazolin and gentamicin in CAPD-related peritonitis patients after administration with the International Society of Peritoneal Dialysis (ISPD) recommended dosage for the empirical therapy and to determine whether or not these dosage regimens are appropriated for the first-5 day of empirical therapy by using the pharmacokinetic estimation.

Eighteen patients were included. Both serum and dialysate cefazolin levels, except for the first 3.3 minutes of the first-day serum cefazolin levels, were at all times higher than the therapeutic levels (8 micrograms/millilitres) indicated by the United States' National Committee for Clinical Laboratory Standards (NCCLS) data. In contrast, serum gentamicin levels, even the peak, were lower than the recommended therapeutic levels, while the trough serum gentamicin levels were higher than the minimal toxic concentration (2 micrograms/millilitres) since the fourth day of the treatment. The dialysate gentamicin levels were higher than the therapeutic levels only the first 4.75-4.76 hours each day. By the pharmacokinetic analysis, we found that it would be very difficult, if not impossible, to adjust the dosage regimen of gentamicin for the appropriate levels in both serum and dialysate which might due in part to the very slow elimination of this narrow therapeutic index drug in this group of patients.

In conclusion, this study demonstrated that the standard dosage of continuous intraperitoneal cefazolin might be appropriate for the treatment of CAPD-related peritonitis, but the same was not true for once-daily intraperitoneal gentamicin.

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