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The stability of cefoperazone/sulbactam (sulperazone) in PD solutions**Somjing Roongjang**

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Peritonitis is one of the most serious complication of peritoneal dialysis (PD), causing significant morbidity and occasional mortality. Intraperitoneal (IP) administration of antibiotics is recommended for the treatment of PD-related peritonitis. The beta lactam/beta-lactamase inhibitor such as cefoperazone/sulbactam (sulperazone) has been used in intra-abdominal infections. This combination has a spectrum covering aerobic, facultative and anaerobic bacteria. The purpose of this study was used to determine the stability of cefoperazone (1 g/L) and sulbactam (500 mg/L) in PD solutions (including Extraneal, Dianeal and CAPD/DPCA) by using high performance liquid chromatography (HPLC). The results show that cefoperazone and sulbactam retained more than 90% of their initial concentration for 120 hours when stored at 4°C in whole PD solutions. At room temperatures (25 and 30°C), cefoperazone is reported to be stable in PD solutions at least 24 hours. Nevertheless, sulbactam is reported to be less stable than 24 hours. At body temperature (37°C), cefoperazone was stable in PD fluids less than 24 hours. However, HPLC chromatogram showed sulbactam degradation product and was less stable than 4 hours in icodextrin and glucose PD solutions. Therefore, cefoperazone is stable in PD solutions and can be administered in PD bag for treatment of PD-related peritonitis. However, admixture sulbactam in PD solutions must be used with caution due to its lack of stability. This study provides precious data to healthcare professionals to help make their decisions for preparing and storing these antibiotics under appropriate conditions before administration.

Biography

Somjing Roongjang has completed his Master's degree and PhD from Graduate School of Pharmaceutical Sciences, Osaka University. Meanwhile, he is the Lecturer at Department of Pharmaceutical Sciences, Faculty of Pharmacy, Chiang Mai University, Thailand. His research interests are Pharmaceutical Quality Control, Antisense Therapy and Vaccine Technology. He has contributed greatly to understand the stability of antibiotics in peritoneal dialysis solutions.

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