Abstract:

PURPOSE: Imipenem/cilastatin/relebactam has shown efficacy in complicated intra-abdominal and urinary tract infections in the RESTORE IMI-1 study, and it was recently approved by the US Food and Drug Administration. A press release announced that another Phase III study (RESTORE IMI-2) in patients with hospital-acquired and ventilator-associated pneumonia has met the primary end point. Critically ill patients with multidrug-resistant infections are expected to receive several pharmaceutical intravenous drugs while admitted in hospitals, warranting the need for Y-site compatibility studies. This study was conducted to evaluate the physical compatibility of imipenem/cilastatin/relebactam for injection during Y-site administration with common injectable intravenous medications.

METHODS: Imipenem/cilastatin/relebactam was prepared to the concentration of 5 mg/mL, and other intravenous tested drugs were reconstituted as per the package inserts. Y-site was simulated as a 2-drug combination by mixing 5 mL of each in a glass tube, with reversing of the order of mixing; physical characteristics were recorded, and pH changes and turbidity were measured at time intervals.

FINDINGS: Imipenem/cilastatin/relebactam was found to be compatible with a wide range of intravenous medications, facilitating co-administration with various IV medications.

IMPLICATIONS: The compatibility reported is limited to a 2-h observation period in this study to adequately cover imipenem/cilastatin/relebactam infusion time. In addition, it is based on the measured turbidity with no chemical assay of the components of the admixture.

Reference:

Ghazi, I.M., El Nekidy, W.S., Sood, A., Dulku, A., Patel, R., Patel, K. and Li, P. (2020) Y-site Administration of Imipenem/Cilastatin/Relebactam With Common Intravenous Medications. Clinical Therapeutics. March 2nd. doi: 10.1016/j.clinthera.2020.01.017. (Epub ahead of print).

Full Text