Results of a study to examine the physical compatibility of ceftolozane–tazobactam with common i.v. medications during simulated Y-site administration are presented” Thabit et al (2017).

Abstract:

Purpose: Results of a study to examine the physical compatibility of ceftolozane–tazobactam with common i.v. medications during simulated Y-site administration are presented.

Methods: Ceftolozane–tazobactam was reconstituted according to manufacturer recommendations and diluted with 0.9% sodium chloride or 5% dextrose to solutions containing 15 mg (10 mg of ceftolozane and 5 mg of tazobactam)/mL. All other i.v. drugs were prepared according to manufacturer recommendations and diluted with 0.9% sodium chloride or 5% dextrose to standard concentrations used clinically. Y-site administration was simulated by mixing ceftolozane–tazobactam solution with each tested drug solution at a 1:1 ratio. Solutions were inspected for visual, turbidity, and pH changes immediately and 15, 60, and 120 minutes after mixing. Incompatibility was defined as precipitation, color change, a positive Tyndall test, a change in turbidity of ≥0.5 nephelometric turbidity unit, or a change in pH of ≥1 unit during the 120-minute observation period.

Results: Of the 95 i.v. drugs tested, ceftolozane–tazobactam was compatible with 86 drugs in both diluents; notably, it was compatible with metronidazole in both solutions. No substantial pH changes were observed in any tested combination. Ceftolozane–tazobactam was incompatible with albumin, amphotericin B, caspofungin, cyclosporine, nicardipine, and phenytoin sodium due to turbidity changes and with propofol due to formation of an oily layer.

Conclusion: Ceftolozane–tazobactam 15 mg (10 mg of ceftolozane and 5 mg of tazobactam)/mL was physically compatible with 86 of 95 study drugs tested in both 0.9% sodium chloride injection and 5% dextrose injection during simulated Y-site administration.
Reference:


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