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.

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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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