The results of a study to determine the physical compatibility of ZTI-01 (fosfomycin for injection) in 0.9% sodium chloride or 5% dextrose during simulated Y-site administration with 37 i.v. antimicrobials and 58 nonantimicrobials are reported” Monogue et al (2018).

Abstract

Purpose The results of a study to determine the physical compatibility of ZTI-01 (fosfomycin for injection) in 0.9% sodium chloride or 5% dextrose during simulated Y-site administration with 37 i.v. antimicrobials and 58 nonantimicrobials are reported.

Methods Fosfomycin, an epoxide antibiotic with broad-spectrum activity against multidrug-resistant bacteria, is marketed in the United States only in an oral formulation with limited bioavailability, but an i.v. formulation is in development. Fosfomycin for injection and other evaluated drugs were reconstituted according to manufacturer recommendations and further diluted with 0.9% sodium chloride or 5% dextrose to the final desired concentrations. Y-site administration was simulated in glass culture tubes. Incompatibility was defined as changes in visual characteristics or a change in turbidity of >0.5 nephelometric turbidity units over the 120-minute observation period.

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Results Of the 95 drugs tested, 16 were incompatible with fosfomycin in 0.9% sodium chloride, and 18 were incompatible with fosfomycin in 5% dextrose; incompatibility was observed with 10 of 37 antimicrobials, including the 3 commercially available amphotericin B products, anidulafungin, caspofungin, ceftaroline, ciprofloxacin, daptomycin, doxycycline, and isavuconazonium sulfate.

Conclusion Fosfomycin for injection at a concentration of 30 mg/mL was physically compatible with 73 of 95 (77%) of the i.v. drugs tested at concentrations used clinically in both 0.9% sodium chloride injection and 5% dextrose injection. Twenty-two drugs were deemed incompatible in at least 1 of the 2 diluents.

Reference:


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