

Vancomycin 10 mg/mL and oxacillin 20 mg/mL were determined to be physically incompatible for Y-site delivery in this study..." Teibel et al (2015).

Abstract:

BACKGROUND: Vancomycin and oxacillin may be used together as empiric coverage in patients with proven or suspected *Staphylococcus aureus* infections. Though vancomycin hydrochloride 20 mg/mL and oxacillin sodium 160 mg/mL are reported to be compatible via Y-site delivery, Y-site compatibility of commonly used concentrations, vancomycin 10 mg/mL and oxacillin 20 mg/mL, has not yet been reported.

OBJECTIVE: To determine the Y-site compatibility of vancomycin 10 mg/mL and oxacillin 20 mg/mL.

METHODS: One vancomycin hydrochloride 1 g vial was reconstituted with 10 mL sterile water for injection (SWFI) and diluted with 90 mL 5% dextrose in water (D5W) in an evacuated intravenous (IV) bag. One oxacillin sodium 2 g vial was reconstituted with 11.5 mL sterile water for injection and diluted with 88 mL sterile water for injection in an evacuated IV bag. Three mL of each vancomycin and oxacillin were mixed in 4 test tubes to simulate Y-site delivery. Spectrometry, pH evaluation, and visual examination were performed for each test tube immediately following mixing and at 30 minutes, 1 hour, and 2 hours after mixing.

RESULTS: Upon visual examination with multiple backgrounds, a white precipitant was immediately evident in the test tubes with vancomycin and oxacillin combined. Spectrometry results strongly supported evidence of precipitation throughout the duration of the experiment.

CONCLUSIONS: Vancomycin 10 mg/mL and oxacillin 20 mg/mL were determined to be physically incompatible for Y-site delivery in this study, despite prior evidence that the 2 medications in different concentrations were suitable for Y-site co-administration.

Reference:

Teibel, H.M., Knoderer, C.A. and Nichols, K.R. (2015) Compatibility of Vancomycin and Oxacillin During Simulated Y-Site Delivery. *Hospital Pharmacy*. 50(8), p.710-3.



doi: 10.1310/hpj5008-710.

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