“The physical compatibility of cisatracurium with selected drugs during simulated Y-site administration was studied” Foushee et al (2015).

Reference:


Physical compatibility of cisatracurium during simulated Y-site administration
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Abstract:

Purpose: The physical compatibility of cisatracurium with selected drugs during simulated Y-site administration was studied.

Methods: Study drugs were selected based on the lack of physical compatibility data with cisatracurium and their use in intensive care units. Test admixtures were prepared by mixing 2.5-mL samples of varying concentrations of calcium gluconate, diltiazem, esomeprazole, regular insulin, nicardipine, pantoprazole, and vasopressin with either 2.5 mL of normal saline 0.9% (control) or 2.5 mL of cisatracurium (experimental) to simulate a 1:1 Y-site ratio. Drug
infusions were prepared at the maximum concentrations used clinically. Physical compatibility of the admixtures was determined by visual and turbidimetric assessments performed in triplicate immediately after mixing and at 15, 30, and 60 minutes. Visual incompatibility was defined as a change in color, the formation of haze or precipitate, the presence of particles, or the formation of gas in the experimental groups compared with the controls. Disturbances invisible to the naked eye were determined by assessing changes in turbidity of experimental admixtures compared with the controls.

Results: None of the admixtures exhibited visual changes when mixed with cisatracurium. Six of the seven admixtures exhibited turbidimetric compatibility with cisatracurium. Pantoprazole admixtures demonstrated a significant difference in turbidimetric assessment between the control and experimental groups when mixed with cisatracurium (p < 0.001).

Conclusion: Calcium gluconate, diltiazem hydrochloride, esomeprazole, regular insulin, nicardipine hydrochloride, and vasopressin demonstrated physical compatibility with cisatracurium over 60 minutes during simulated Y-site administration. Cisatracurium and pantoprazole should not be coadministered due to a significant difference in turbidity between control and experimental samples.

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