

## **The primary objective of this study was to evaluate the use of 8.4% sodium bicarbonate in the buffering of commonly administered vancomycin hydrochloride solutions for use with midline or peripheral line catheters” Puertos and Spencer (2015).**

### Abstract:

The primary objective of this study was to evaluate the use of 8.4% sodium bicarbonate in the buffering of commonly administered vancomycin hydrochloride solutions for use with midline or peripheral line catheters. Nine admixtures of vancomycin hydrochloride were aseptically prepared for this study. Vancomycin hydrochloride solutions were prepared in triplicates in the following strengths, 1 gram, 2 grams, and 3 grams, which were added to 250-mL bags of sodium chloride 0.9% injection (with overfill).

To each prepared solution of vancomycin hydrochloride, 0.5 mL of 8.4% sodium bicarbonate was added. The pH was measured to obtain a baseline level. At day 9, the pH of each sample was measured and compared to those at baseline. The osmolality of each sample was also measured. There was no statistical difference in the pH at baseline and at day 9 ( $\alpha = 0.05$ ,  $P = 0.347$ ). A solution of vancomycin hydrochloride that is compounded in 250 mL of sodium chloride 0.9% injection (including overfill) and buffered with 0.5 mL of 8.4% sodium bicarbonate maintained a pH in the range of 5 to 9 and an osmolality in the range of 150 mOsm/kg to 500 mOsm/kg.

### Reference:

Puertos, E. and Spencer, M. (2015) Use of 8.4% Sodium Bicarbonate in Buffering Commonly Administered Vancomycin Hydrochloride Solutions for Use with Midline or Peripheral Line Catheters. International Journal of Pharmaceutical Compounding. 19(4), p.334-6.

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