TERLIPRESSIN PH STABILITY FOR CONTINUOUS INFUSION


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BACKGROUND

- Recent publications have shown greater efficacy of terlipressin treating hepatorenal syndrome via continuous infusion (CI) than by intermittent bolus injection.
- Explained by its pharmacodynamic effect (<4 h): in 24 hours, with injections every 6 hours, there may be ≥8 hours without pharmacological effect.
- Terlipressin are stable only at pH 3-4. It is currently unknown if there is a variation in pH after dilution for continuous infusion, and its impact on the stability.

OBJECTIVE

The objective is to determine the pH variation after dilution of terlipressin in different diluents commonly used in clinical practice for administration by continuous infusion.

METHODS

Diluents

- 0.9% NaCl (NS)
- 5% dextrose (DSW)
- 3.3% dextrose-0.3% saline (DS)

- Terlipressin initial pH measurement was performed with the commercial ampoule (8.5 ml).
- Terlipressin was diluted to 10, 20, 50, 100, 200, 250 and 500 ml of NS, DSW and DS.
- Triplicate pH measurements were made at every volume using the different diluents.

RESULTS

- A slight decrease in pH was observed between 10 and 20 ml only in NS
- A tendency to reach pHs greater than 4 was observed, values in which the stability of the molecule would be compromised

CONCLUSION

- The results show that pH values are within the terlipressin stability range.
- This makes it possible to dilute terlipressin with NS, DSW and DS in volumes between 50 and 500 ml (not higher), allowing administration in 24 hours by continuous infusion, reducing the dose and the number of administrations.