Background and importance

Different factors can influence the compatibility and stability of the mixture: drug type, concentration, solvent, container, temperature and light. There are some mixtures of drugs with proven stability, but there is a lack of evidence about the stability and compatibility of the combination of ondansetron and midazolam. The objective of this investigation was to study the compatibility and stability of a binary mixture of these drugs in solution for subcutaneous infusion in palliative care.

Aim and objectives

To evaluate the compatibility and stability of two admixtures of ondansetron and midazolam at two different temperatures (25°C and 37°C). The concentrations of the admixtures were 0.1 g/L–0.1 g/L and 0.5 g/L–1.0 g/L in NaCl 0.9% stored in elastomeric infusers protected from light.

Material and methods

Samples were prepared and diluted in NaCl 0.9% in elastomeric infusors in triplicate to obtain four different conditions of concentration and/or storage temperature (0.1 g/L–0.1 g/L; 0.5 g/L–1.0 g/L for ondansetron and midazolam, respectively, stored at temperatures of 25°C and 37°C).

The concentration of each drug was periodically determined using HPLC-UV and UV-Vis spectrophotometry methods in the analytical chemistry laboratory between February and June 2019. Conditions: C18 column, mobile phase methanol: KH2PO4 0.05 M, adjusted to pH 3 with H3PO4 (60:40, v/v) delivered at a flow rate of 1.0 mL/min. The sample injection volume was 20 μL, and triplicate injections were performed for every sample. The signal was recorded over 14 min and the retention times were 4.1 min for ondansetron and 7.8 min for midazolam. Ondansetron and midazolam concentrations were determined at 254 nm.

Results

HPLC-UV and UV-Vis spectrophotometric methods gave the same results. The stability of the admixtures diluted in NaCl 0.9% were as follow: ondansetron–midazolam (0.1 mg/mL–0.1 mg/mL and 0.5 mg/mL–1.0 mg/mL) were stable (retained >90% of their initial concentrations) for only 1 day at 25°C and 37°C, respectively.

Conclusion and relevance

Recommended use is for a maximum of 1 day, at the concentrations evaluated; over time it tends to precipitate. Infuser conditioning decreases stability with respect to other conditioning materials, so other stability studies may not be extrapolated if stored under different conditions.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.
number of days from SLT assessment to pharmacy review was 0 for patients referred by SLT to pharmacy, compared with a median of 10 days for those not referred. Median percentage of medications optimally administered was 89% per patient in those referred to pharmacy versus 50% in patients not referred. This project has targeted a number of different areas to highlight and improve administration of medication to patients with dysphagia throughout a large acute hospital. The audit cycle continues with the aim of further improving patient care in this area.

REFERENCES AND/OR ACKNOWLEDGEMENTS
No conflict of interest.

Abstract 5PSQ-115 Table 1

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*Not audited.