detected in this charge variant profile after samples were subjected to 60°C. The charge variants of adalimumab after sample smooth shaking remained unchanged.

Conclusion and relevance Exposure of adalimumab to 60°C modified the chemical structure. The increase in positive charges in the primary structure indicated the increase in basic variants. Therefore, it is highly recommended to keep prefilled syringes refrigerated during transport and storage. On the other hand, agitation of adalimumab solution did not affect the charge variant profiles and thus no particular recommendation is needed.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Funded by Project FIS: PI-17/00547 (Instituto Carlos III, Ministerio de Economía y Competitividad, Spain), which means that it was also partially supported by the European Regional Development Funds.

No conflict of interest.

COMPATIBILITY AND STABILITY OF ONDANSETRON AND MIDAZOLAM MIXTURES USED IN PALLIATIVE CARE

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–0.5 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 infusers 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.

IMPROVING MEDICATION ADMINISTRATION FOR PATIENTS WITH DYSPHAGIA

Background and importance Dysphagia affects swallowing not only of food and drink, but also of orally administered medications. Altering solid dose formulations renders administration unlicensed and can adversely affect both patient and administrator, depending on the type of drug. Medication administration in patients with dysphagia necessitates a multidisciplinary approach with no one profession holding all the necessary expertise.

Aim and objectives To improve medication administration for patients with dysphagia.

Material and methods

- Baseline audit of practice of medication administration to patients with dysphagia (July/August 2016, n=16).
- Establishment of electronic referral from speech and language therapist (SLT) to pharmacy for patients with dysphagia.
- Assessment of liquid medications using the International Dysphagia Diet Standardisation Initiative (IDDSI) flow test to enable pharmacists and nursing staff to understand if liquid formulation is suitable for the patient’s current fluid recommendations as per SLT.
- Policy on medication management in patients with dysphagia written and circulated.
- Ongoing audit of medication administration to patients with dysphagia on wards, and of SLT compliance in completing electronic referral. Audits at 2 months (August 2017, n=14) and at 12 months (August 2018, n=30) post implementation of electronic referral.

Results

- Median percentage of medications being optimally administered increased from 44% to 89% post implementation of electronic referral and viscosity guide for liquid medications.
- 40% of patients needing pharmacy review referred by SLT, but 40% of patients needing referral were only highlighted on the day of the audit.
- Patients were reviewed sooner by pharmacy when electronic referral was completed.

Conclusion and relevance Implementation of SLT electronic referral to pharmacy increased patient safety. The median