EVALUATION OF THERAPY MANAGEMENT FOR PREVENTION OF CHEMOTHERAPY INDUCED NAUSEA AND VOMITING IN A CENTRALISED INTRAVENOUS COMPOUNDING FACILITY

22nd Congress of the EAHP
22-24 March 2017

PP-040

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Background and purpose

In April 2016, following the preliminary analysis [1] and the production process validation, the Central IntraVenous Additive Services (CIVAS) has been completed and endowed of a robotic system for the compounding of non-toxic intravenous injectable drugs (IV). Nowadays, antiemetic drugs represent an essential **anticancer support treatment** in order to prevent nausea and vomiting induced by chemotherapy (**CINV)** and we thought that providing it as mini-bags ready for administration may results in a better efficiency of hospital workflow and increase in nurse time devoted to patient assistance.

The goal of this study is the evaluation of the reproducibility, the time and the dosage accuracy associated with the automated batches production of the CINV preventing IV therapy, in particular the **$5HT_3$ inhibitors ondansentron and palonosetron.**

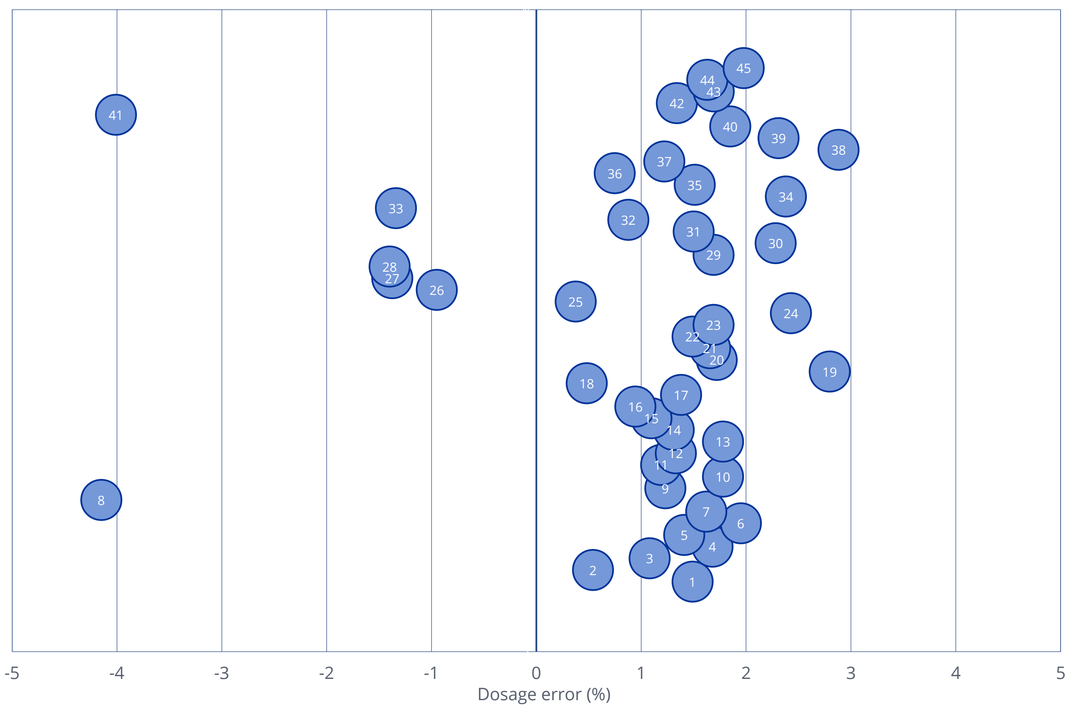
Material and methods

12-weeks palonosetron and ondansetron automated production have been analyzed, evaluating the average dosage error and the average preparation time. All data have been elaborated through APOTECAmanager, the management software of the pharmacy IV production.

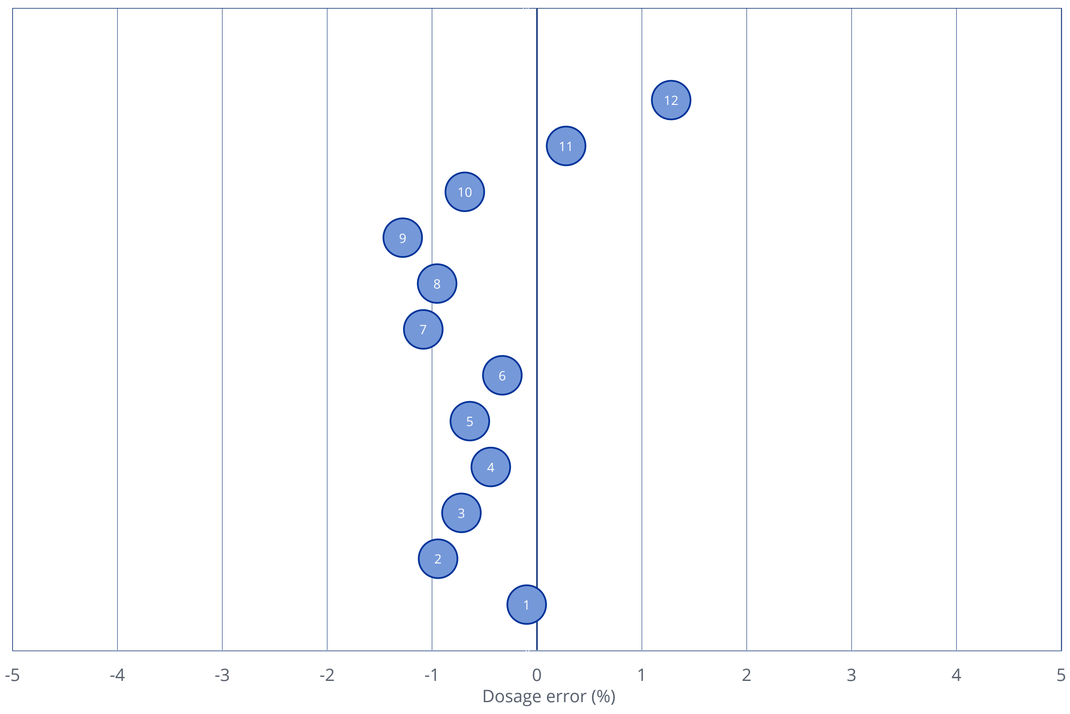
Results

According to drugs stability, CIVAS produced: 12 palonosetron batches, corresponding to 98 bags and 45 ondansetron batches, for a total of 622 bags. The average production time per bag preparation is: 3 minutes 15 seconds for palonosetron and 3 minutes 12 seconds for ondansetron. The average batch dosage accuracy is 99,3% for palonosetron and 98,5% for ondansetron.

ONDANSETRON	Batches/bags	Average production time	Dosage accuracy
	45/622	3m 12s	98,5%



PALONOSETRON	Batches/bags	Average production time	Dosage accuracy
	12/98	3m 15s	99,3%



Results

The production of IV bags of $5HT_3$ inhibitors can be excellently performed through robotic system compounding since the results of batches production shows an high process reproducibility, a reasonable average preparation time and an optimal accuracy. Next steps will be the inclusion within the new automated and centralized workflow of other antiemetic drugs such as corticosteroids and NK-1 antagonists, the preparation of bags containing two drugs and the measurement of key performance indicators, such as medical errors and time saved in daily nurses practice.

References and/or Acknowledgements
[1] S. Leoni et al. Centralized IV compounding: a pre-feasibility study on clinical practice. Eur J Hosp Phar, 2016; 23 (Suppl 1):A202

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