3PC-025 STABILITY STUDY OF STANDARDISED FLUID THERAPY PREPARED BY THE PHARMACY DEPARTMENT TO TREAT PAEDIATRIC DIABETIC KETOACIDOSIS

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Background and Importance The Pharmacy Department prepares and distributes fluid therapy (2 bags-system) for the treatment of diabetic ketoacidosis (DKA) in the paediatric emergency unit.

The implementation of this procedure has improved patient safety, since standardised preparations are used only the rhythm being modified according to the patient's needs.

The two bags system consists in sets of two bags of maintenance electrolytes in 1 litre of 10% dextrose or isotonic saline. Unfortunately, their expiration date was only 7 days due to the lack of data on stability.

In order to improve the convenience and reduce wastage, we designed and carried out a physical-chemical stability study of these solutions.

Aim and Objectives The objective of this study was to evaluate the physical and chemical stability of these solutions prepared in the Pharmacy Department to manage paediatric DKA.

Material and Methods

1. The two bags system contains:
   - Solution 1: Potassium (k) 38meq/l, phosphate (P) 59 mg/dl, magnesium (Mg) 5mg/dl and Sodium (Na)143meq/l in isotonic saline.
   - Solution 2: The same electrolytes concentration in dextrose 10%.
2. We prepared 8 units of each solution, half of them were stored at room temperature (23ªC), and half of them in the refrigerator (4°C).
3. We analysed the electrolytes concentration and made visual inspection for physical changes on the following days: 0 (d0), 14 (d14), 28 (d28), 49 (d49) and 92 (d92).

The chemical analysis was performed by the Laboratory Department through the following techniques: sodium and potassium by indirect potentiometry with selective electrode, phosphate by phosphomolybdate reaction; magnesium and glucose by enzymatic technique.

The physical analysis was determined in pharmacy through visual inspection searching for changes in colour and matter particles against a white and a black background.

The results were expressed in mean+/-SD. It was accepted a deviation <5%.

Results The electrolytes concentration remained stable during the study period. The visual inspection showed physical stability. Table 1 summarises the results.

Conclusion and Relevance The results show the stability of solutions in the period of study. Nevertheless, the beyond-use-date will be re-evaluated when a validated sterility test is performed.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

3PC-026 COST SAVINGS ASSOCIATED WITH ROMIPLOSTIM REPACKAGING IN A PATIENT WITH IDIOPATHIC THROMBOCYTOPENIC PURPURA

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Background and Importance

Background Romiplostim is indicated for the treatment of primary immune thrombocytopenia (ITP) in adult patients who are refractory to other treatments (corticosteroids, immunoglobulins). This drug has an important economic impact, in this sense it has been decided to start a protocol for the use of romiplostim which has been established to group patients or dispense two repackaged romiplostim pre-filled syringes for each patient fractionating vials according to the patient´s dose in syringes as a saving strategy.

Aim and Objectives

Objective Evaluating and quantifying the cost saving of the optimisation of the use of romiplostim vials through repackaging into syringe under aseptic conditions.

Material and Methods Retrospective study from January to June 2023 and patients diagnosed from ITP and treated with romiplostim were included. A protocol is being implemented, which consists of dispensing two repackaged romiplostim prefilled syringes (7 days expiration according to Good Practice Guide of preparation of medications in hospital Pharmacy Service) for each patient or grouping the patients receiving treatment with romiplostim and fractionating the vial in syringes to adjust to the recommended dose according to the Summary of Product Characteristics in a flow laminar cabinet. Variables collected: demographics (sex/age), number of patients, and economic (price of romiplostim vial). Data were collected from pharmacy electronic dispensing records.

Abstract 3PC-025 Table 1

Solution 1		(Mean ± SD)										Diff (%)
		T0		T14		T28		T42		T92		
	Theoric range	23ºC	4ºC	23ºC	4ºC	23ºC	4ºC	23ºC	4ºC	23ºC	4ºC	
Sodium(meq/l)	136.1-150.4	144,2 ± 2,7	143,8 ± 2,6	137,3 ± 2,7	137,0 ± 2,6	142,3 ± 2,7	142,0 ± 2,6	143,8± 2,7	143 ± 2,6	141,5± 2,7	141,5± 2,6	NS
Potassium(meq/l)	36,2- 40,0	37,3 ± 1,4	41,4 ± 2,9	37,8 ± 1,4	37,7 ± 2,9	37,3 ± 1,4	38,3 ± 2,9	38,6 ± 1,4	38,6 ± 2,9	38,3 ± 1,4	38,3 ± 2,9	NS
Phosphate (mg/dl)	56.06-62	56,3 ± 2,1	62,4 ± 4,9	57,3 ± 2,1	58,5 ± 4,9	57,5 ± 4,9	56,5 ± 4,9	58,5 ± 2,1	58,5 ± 2,1	55,6 ± 2,1	55,6 ± 2,1	NS
Magnesium (mg/dl	5,4-5,9	5,9 ± 0,4	7,5 ± 1,4	5,2 ± 0,4	5,3 ± 1,4	5,1 ± 0,4	5,0 ± 1,4	5,8 ± 0,4	5,7 ± 1,4	5,6 ± 0,4	5,5 ± 1,4	NS
Solution 2		**(Mean ± SD)**										
		T0		T14		T28		T42		T92		
	Theoric range	23ºC	4ºC	23ºC	4ºC	23ºC	4ºC	23ºC	4ºC	23ºC	4ºC	
Sodium(meq/l)	136.1-150,4	149,25 ± 4,6	149 ± 3,5	141,5 ± 4,6	140,3 ± 3,5	146 ± 4,6	144,5 ± 3,5	146,75 ± 4,6	145 ± 3,5	145,7 ± 4,6	144,3 ± 3,5	NS
Potassium(meq/l)	36,2- 40,0	40,8 ± 1,4	42,3 ± 2,2	38,6 ± 1,4	37,9 ± 2,2	38,8 ± 1,4	37,9 ± 2,2	39,2 ± 1,4	38,5 ± 2,2	39,1 ± 1,4	38,4 ± 2,2	NS
Phosphate (mg/dl)	56.06-62	59,9 ± 3,2	65,8 ± 4,7	58,7 ± 3,2	58,6 ± 4,7	57,5 ± 3,2	57,2 ± 4,7	59,7 ± 3,2	58,9 ± 4,7	56,6 ± 3,2	56,1 ± 4,7	NS
Magnesium (mg/dl	5,4-5,9	5,8 ± 0,3	6,13 ± 0,4	5,4 ± 0,3	5,6 ± 0,4	5,2 ± 0,3	5,2 ± 0,4	5,8 ± 0,3	5,6 ± 0,4	5,7 ± 0,3	5,6 ± 0,4	NS
Dextrose			10,8± 1,5%	-	10,9± 1,5%	9,6± 3,4%	11,0± 1,5%	9,4 ± 3,4%	10,0± 1,5%	9,4 ± 3,4%	9,5± 1,5%	NS