High risk medicines : Analysis of KCl administration at GHdC

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INTRODUCTION

In Belgium several projects are being launched about high risk medication with the patient safety contract between hospitals and the Ministry of Health. Our institution focused on KCl. This study is dedicated to the analysis of KCl administration in our hospital. The purpose of this study was to compare drug administration in our institution with guidelines and to find improvement measures. This study is part of a series of institutional measures already taken (for example: only one presentation of KCl in our institution).

METHOD

Collection of KCl administrations in our hospital during 3 weeks (April 2015). Analysis of administration: infusion rate, diluent and route of administration.

RESULTS

We collected 154 administrations of KCl (124 patients). The analysis gave the following results :

- The infusion rate, diluent and route of administration were compliant to international guidelines in almost all the cases (figure 1).

Figure 1 : Compliance of administrations

	Guidelines	Compliance (N=154)
Infusion rate	• PV : max 5mEq/h • CV : max 10mEq/h with pump	**100%** (154/154)
Diluent	• NaCl 0,9%, Glucose 5%, NaCl 0,9%-Glucose 5%... • Not in Mannitol	**100%** (154/154)
Route of administration	> 40mEq/j : switch to CV (risk of phlebitis)	**98,7%** (152/154)
PV = Peripherical Vein, CV = Central Vein		

- In only 24.19% of administrations, KCl was given together with other drugs in the same solution. Among these, 63.33% were validated mixtures. For the 36.67% remaining, no stability data was found in literature. There were no drug mixtures that were contra-indicated. Overall 92.83% infusions were validated (figure 2).

Figure 2 : Mixture of KCl with other drugs

Médicaments mélangés au KCl	Nombre (N=30)	Conformité
NaCl 20%	**10**	Validated
$MgSO_4$ 3g/10ml	**6**	Validated
Alizapride 50mg/2ml	**4**	Unknown*
NaCl 20% + MgSO4 3g/10ml	1	Validated
NaCl 20% + Litican 50mg/2ml	1	Unknown*
Alizapride 50mg/2ml + $MgSO_4$ 3g/10ml	1	Unknown*
Theophyllin 200mg/10ml	1	Validated
Clonidine 0,15mg/ml	1	Unknown*
MgSO4 3g/10ml + Insuline 10UI	1	Validated
Vitamine B1	1	Unknown*
Vitamine B1 + Vitamine B6	1	Unknown*
NaCl 20% + Alizapride 50mg/2ml + Ondansetron 8mg/4ml + Lorazepam 4mg/ml	1	Unknown*
NaCl 20% + Alizapride 50mg/2ml + Ondansetron 8mg/4ml	1	Unknown*
* No data in literature		

63,33% (19/30) Mixtures validated → 92,83% (143/154) Infusions validated

CONCLUSION

This study shows that compliance to administration of KCl guidelines is very high. In order to make further improvements we edited institutional guidelines for the nursing staff (figure 3).

Figure 3 : Protocole d'administration du KCl à destination des infirmières