

INTRODUCTION

Centralized reconstitution unit of Besançon university hospital
≈ **46 000** injectable anticancer preparations per year

Objective :

Assess the type of syringe used according to the volume of anticancer drug to take during their preparation

MATERIALS ET METHODS

Evaluation of Professional practices

→ **Observational audit**

When ? 5 mornings of production

Who ? 2 auditors

How ? **Volumes** are collected as well as the syringes **used** by pharmacy technicians for :

- Levies of **anticancer drug** (AD)
- **Solvent samples** required for powder reconstitution (S)

A non-compliance (NC) was defined as a volume taken less than 30% of the total capacity of the syringe

Below 30% of the capacity of the syringe, the volume cannot be taken with an acceptable error ^{1,2}:

Tolerance on the volume taken is ≥ 6% over this limit according to EN ISO 7886-1 :1997

RESULTS

- **8 pharmacy technicians** were observed
- **591 samples** were audited
- **6 ≠ volumes syringes** (from 1 to 60 mL) were used for injectable anticancer preparations



Compliance rate = 95,4 %



Non compliances were in relation with :

- 1) Volume samples < 20 mL prepared with 60 mL syringes (additional volumes when the volume to take is > 60 mL)
- 2) Low-volume samples intended for therapeutic lumbar punctures

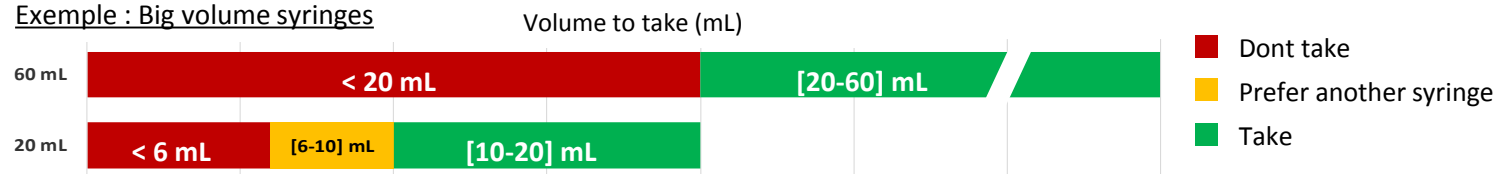
		C n (%)	NC n (%)
AD n=461	1 ml (n=26)	21 (80)	5 (20)
	3 ml (n=23)	23 (100)	0 (0)
	5 ml (n=29)	29 (100)	0 (0)
	10 ml (n=34)	34 (100)	0 (0)
	20 ml (n=71)	71 (100)	0 (0)
	60 ml (n=278)	260 (93)	18 (7)
S n=130	1 ml (n=5)	5 (100)	0 (0)
	3 ml (n=11)	8 (73)	3 (27)
	5 ml (n=30)	30 (100)	0 (0)
	10 ml (n=15)	15 (100)	0 (0)
	20 ml (n=27)	26 (96)	1 (4)
	60 ml (n=42)	42 (100)	0 (0)
Total n=591		564 (95,4%)	27 (4,6%)

DISCUSSION CONCLUSION

Identification of ≠ situations in which the volume taken was < 30% of the capacity of the syringe :

- 1) Correction possible : **Awareness of pharmacy team** et drafting a **procedure for the good use of syringes**

Exemple : Big volume syringes



- 2) Correction not possible : Volume samples intended for therapeutic lumbar punctures couldn't be corrected because syringes smaller than 1 mL are not commercially available

¹ De Giorgi Isabella et al. Justesse et précision des prélèvements de faibles volumes à l'aide de seringues. 2006. ² EN ISO 7886-1 :1997