

OPTIMIZATION OF THE SUBCUTANEOUS ADMINISTRATION OF DARATUMUMAB

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1 INTRODUCTION

- Daratumumab, now indicated for **first-line treatment of multiple myeloma**, has been available in a formulation for **subcutaneous (SC)** injection since April 2021.
- This improvement in therapeutic management myeloma has led to a **55% increase in the volume of preparations** at the **Nantes University Hospital** between **May 2020 and September 2021**. SC administration must be carried out **continuously over 5 minutes**.
- However, nurses who work in the hospital day care report **musculoskeletal disorders**, inhibiting continuous infusion and thus leading to **drug misuse**.

2 OBJECTIVE

Determine an **optimal** and safe set-up for **subcutaneous administration**.

3 MATERIAL AND METHODS



Market study

- Contact hospitals
- Contact pharmaceutical
- Analysis of technical manual



Working group

- 2 nurses, 1 pharmacy technician (PT) and 2 pharmacists
- Inter-service meetings
- Selection of criteria for the choice of medical device (MD) and scoring according to them



Choice of new set-up

- Creation of a schema of the optimal and secure administration set-up
- Cost evaluation of the new assembly
- Assessment of preparation volumes IV (2020) and SC (2021)

4 RESULTS

CHOICE OF THE GENERAL SET-UP

- 20ML SYRINGE** : Luer Lock 3 pieces containing 15 mL
- SYRINGE PUMP (SP)** - Injectomat Agilia
- 3 WAY STOPCOCK** – Luer-Lock – Mobile security lock prevents accidental disconnections
- 10ML SYRINGE** – Pre-filled with NaCl- Rinsing
- INFUSION EXTENSION LINES**- Ø int. 1mm – ext. 2,5mm Female Luer-lock/Male Luer-lock. Dead volume = 1,18 ml
- SUBCUTANEOUS MD**

SCORING OF 5 DM SUBCUTANEOUS

	A	B	C	D	E
NURSE 1	Green	Orange	Red	Red	Red
NURSE 2	Green	Yellow	Red	Orange	Red
PT	Yellow	Orange	Orange	Yellow	Yellow

- acceptable
- moderately acceptable
- hardly acceptable
- non acceptable

SUBCUTANEOUS MEDICAL DEVICE CHOICE CRITERIA

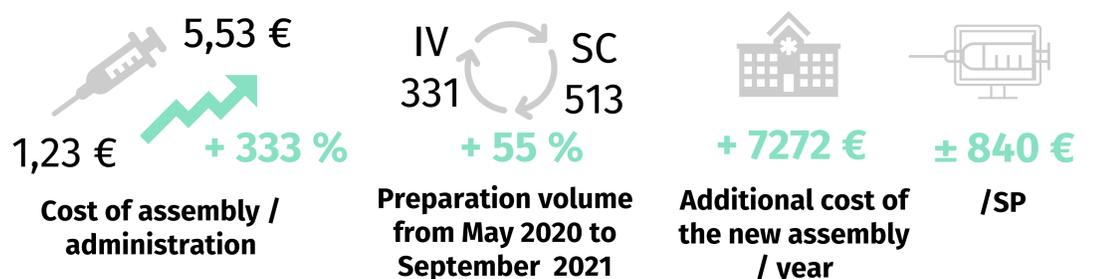
	Microperfuser	An infusion kit	An epicranial needle	hypodermic needle	Secure hypodermic needle
SUBCUTANEOUS MEDICAL DEVICE	A	B	C	D	E
PHARMACIST CRITERIA					
Indication	Fragile veins Home hospitalization	Patients with sensitive skin	Sampling	Injection	Safe injection
Type of infusion	Long duration	Long duration	Not recommended	Short duration	Short duration
Main features	Secured. Fixing fins. Low dead volume (DV) 0.2ml	91.4cm integrated extension DV = 2.9ml	Safety wing needles	-	-
Diameter of canula length of canula	22 G 19 mm	24 G 9 mm	23 G 19 mm	25 G 16 mm	25 G 16 mm
Biocompatibility	✓	✓	✓	✓	✓
Cost Supplier	3,20 € BD	Not referenced EMED	0,05 € BD	0 € BD	Not referenced Bbraun
NURSE CRITERIA					
Right use	✓	✓	X	✓	✓
Fixation of MD	✓	✓	✓	X	X
Practicity of nurses	✓	X (fixed angle)	X	✓	✓
Security of nurses	✓	✓	X (Retractable needle)	X	X
Administrative time	✓	X (Purge)	✓	✓	✓
CRITERIA OF (PT)					
Feasible purging	✓	X (Needle)	X	✓	✓
Security of PT	✓	✓	✓	✓	✓
Time of preparation	X (Purge)	✓	✓	✓	✓

Selection of subcutaneous MD (A)

SCHEMA OF THE NEW ADMINISTRATION SET-UP



EVALUATION OF PREPARATION COSTS AND VOLUMES



5 CONCLUSION AND RELEVANCE

- This multidisciplinary work has allowed us to **choose a subcutaneous administration set-up** for an anticancer treatment.
- Despite the additional cost, this set-up combines **proper use** and **safety** and will be proposed for evaluation in the hospital day care very soon.
- As part of the Quality Improvement of Work Life **for nurses**, occupational doctor is collaborating on this project.