DOES THE DRUGCAM© CHEMOTHERAPY CONTROL SYSTEM ALLOW TO REACH ZERO RISK ?

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- INTRODUCTION -

BACKGROUND - Versailles hospital centre's cytotoxic reconstitution unit has been using Drugcam© **routinely** since 2018 **for most preparations.**
It replaces the previous method, based on **double visual checks** (DVC), and **preparation sheets** (PS), and permits the **dematerialization** of the production.

OBJECTIVES - Determine if Drugcam©, compared to DVC method, **completely safeguards the chemotherapy manufacturing.** Thanks to pharmacy technicians (PT)'s feedback, determine new approaches to ensure a **safer production.**

- MATERIAL & METHODS -

1) **Retrospective analysis** of videos extracted from **182 Drugcam© preparations**. **Identification of non-compliant steps.**

➔ **3 specialities** : ◎ **Kadcyla®** / Trastuzumab emtansine (1) (n=51) ◎ **Adcetris®**/ Brentuximab vedotin (2) (n=78) ◎ **Trisenox®**/ Arsenic Trioxyde (3)(n=53)

➔ **6 criteria** : **PREPARATION (5)** & **CONTROL (1)**

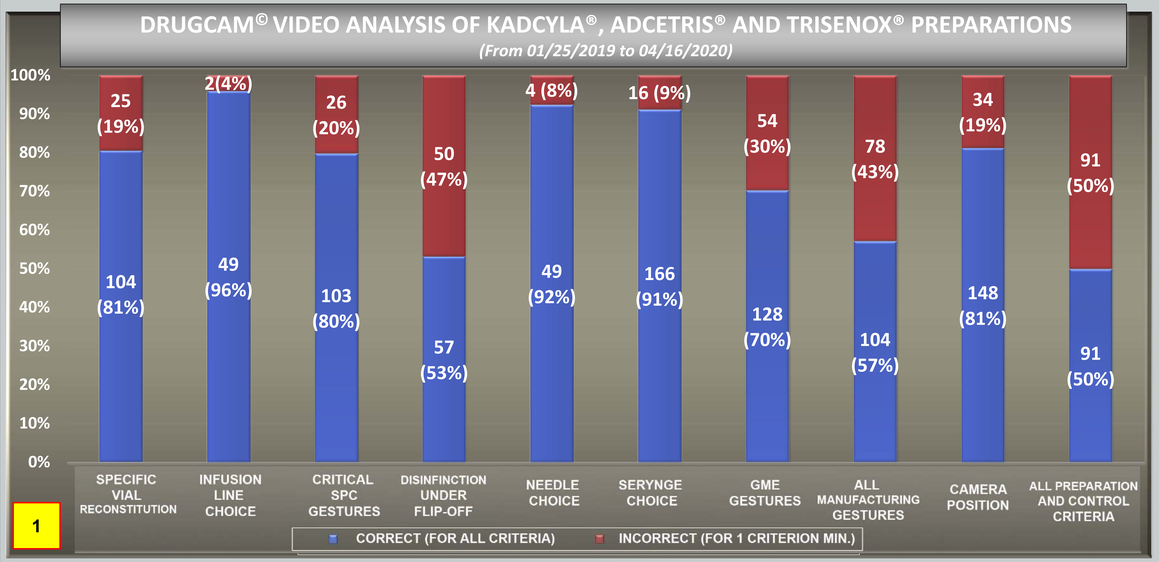
PREPARATION:
- ✳ **Reconstitution** in accordance with **protocol** (1), (2) ✳ Correct choice of **infusion line** (1) } ➔ **2 SPC NON-CONFORMANCE (NC) CRITERIA**
- ✳Proper **disinfection** under **flip-off vials** (1), (2) ✳Correct **needle choice** (3) ✳Correct **seryngе choice** (1), (2), (3) } ➔**3 GOOD PRACTICES of ESTABLISHMENT (GPE) NC CRITERIA**
- ✳Correct **camera position**(1), (2), (3) } ➔ **1 CONTROL CRITERION**

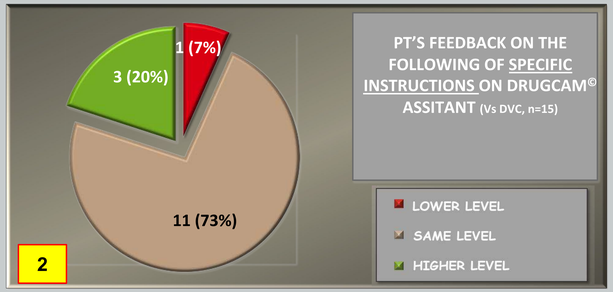
2) A **survey** submitted to **15 PT**

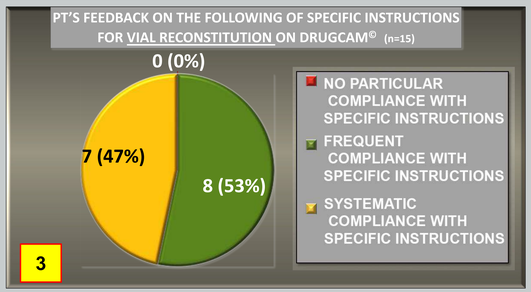
3) Phone conversations with Eurekam company to incorporate PT's suggestions in Drugcam©next update.

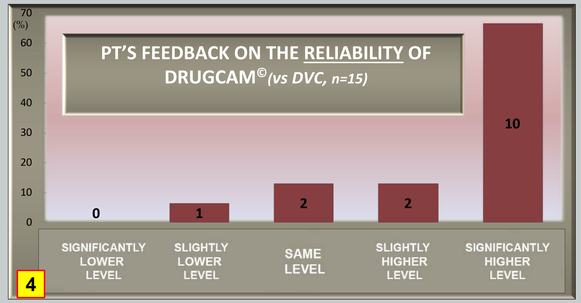
➔ ◎ **fastness** and **reliability** (*vs DVC*) ◎ **Operational protocols** ◎ Errors of **item recognition** with cameras

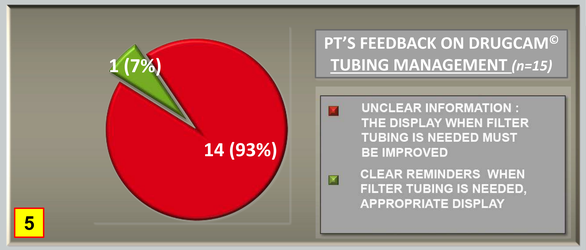
- RESULTS & DISCUSSION -

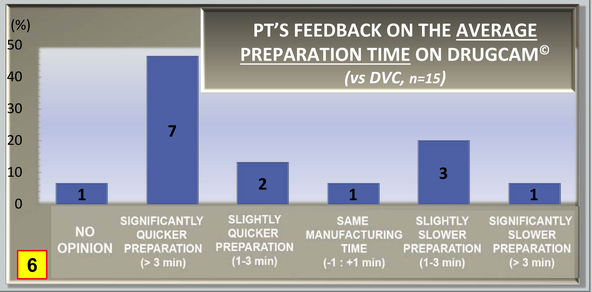












Some **risks of errors,** which could lead to **SPC non-conformances, remain with Drugcam©** , especially in following instructions on **specific parts of operating procedures,** and making inaccurate tubing choices. Other **technical gestures**, less critical (**disinfection** of flip-off vials, **proper seryngе and needle selection**), should be improved *(graphic 1)*

According to the survey, Drugcam© is **faster** *(graphic 6)* and **more reliable** *(graphic 4)* than DVC for cytotoxic control. It also gathers PT's feedback on the following of operating protocols, which **partly differs from video analysis** *(graphics 1, 2, 3).*

- CONCLUSION -

Drugcam© used as a **routine method**, has permitted access to a **per- and post-process control**, a **time gain**, and a **decrease in task interruptions**. However, some risks of error that existed with DVC, remain.

Keep on following **initial and continuous training** is a key point for PTs, especially for **specific preparation steps**, and gestures that cannot be checked by Drugcam©'s artificial intelligence.

Some **software improvements** would be welcomed :

- a briefer access to operational protocols, **focused on specific steps** (pop-up windows to be closed by the PT),
- **blocking checkpoints** to prevent errors more efficiently (**reconstitution specificities**, use of particular items : tubings, infusors...).
- the use of **tubing datamatrix** as a separate and blocking step,
- **items recognition** by Drugcam©'s A.I. (packaged vials, small-volume seryngеs, coloured solutions...).

- 23rd European Scientific days of GERPAC – 23th and 24th November 2020 -