

Evaluation of the chemical contamination by antineoplastic drugs in a Chemotherapy Reconstitution Unit (URC) in a French hospital

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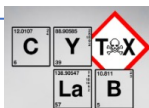
Introduction and Objective :

Antineoplastic drugs¹ are classified as **dangerous drugs**. They represent a **risk** both for patients and healthcare professionals, *from preparation to administration*.

Objective → Evaluation of the chemical surface contamination of our URC.

Materials and Methods :

- Sampling kits provided to Cytolab® (HUG, Switzerland)
- Detection of 25 antineoplastic drugs
- Analysis by validated liquid chromatography-mass spectrometry method
- Results : quantity (ng) per wipe for each sample
- 2 series of 15 samples → **total : 375 results/serie**
 - **First serie :**
 - whole unit : inside and outside the isolators (phone, liberation's bench, transport devices)
 - worst case conditions : after production, before cleaning
 - **Second serie : focus on positive sites :**
 - inside isolators and transport devices
 - before and after cleaning



Results and discussion:

	First serie	Second serie
Number of positive sample sites	7/15 (46%)	
Quantity total of chemical contamination	533.4ng	67.2ng
Number of positive samples	19/375 (5.1%) <ul style="list-style-type: none"> - Isolators : 15/19 - Others : 4/19 (transport devices, phone) 	19/375 (5.1%) <ul style="list-style-type: none"> - Before cleaning : 4% (22.5ng) - After cleaning : 2.8% (14.8ng)

Corrective actions

- Rappel of dressing procedure
 - Use of a surfactant detergent
 - Rythm of cleaning transport devices
- Global vision of the URC chemical contamination in real conditions
 - Main place of contamination : inside isolators then traces of spread in the environment
 - Validate corrective actions

Conclusion :

- **Lack of threshold values** for chemical contamination in baselines → interpretation difficult. **Objective** : reach **0 ng/cm²** by annual evaluation
- **In future** : evaluate the chemical contamination in the **oncology day treatment unit** and choose isolators desing **easier to decontamination**

¹Centers for Disease Control and Prevention. Hazardous Drugs: Draft NIOSH List of Hazardous Drugs in Healthcare Settings, 2020; Procedures; and Risk Management Information