



Mapping of bacterial flora of products entering the Controlled Atmosphere Zone: Catch them all!

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Mot clés : Controlled Atmosphere Zone , Bacterial flora , storage room, swaps



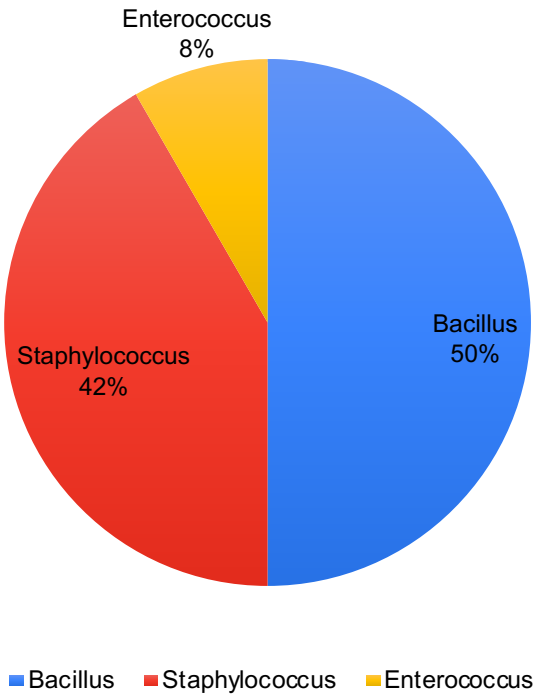
Goals : To ensure the effectiveness of the decontamination chamber of an isolator, the initial bioburden must be as low as possible. Some of our samples from the CAZ (Controlled Atmosphere Zone) have returned positive. Our study aims to map the bacterial flora in order to compare our results with those of the subcontractor laboratory.

Materials & method:

- Define the nature and location of samples
- Drafting of a procedure to limit the risk of contamination of samples
- Sampling using swabs
- Inoculation of swabs in different types of agar and identification by MALDI TOF within the hospital laboratory
- Analysis of results

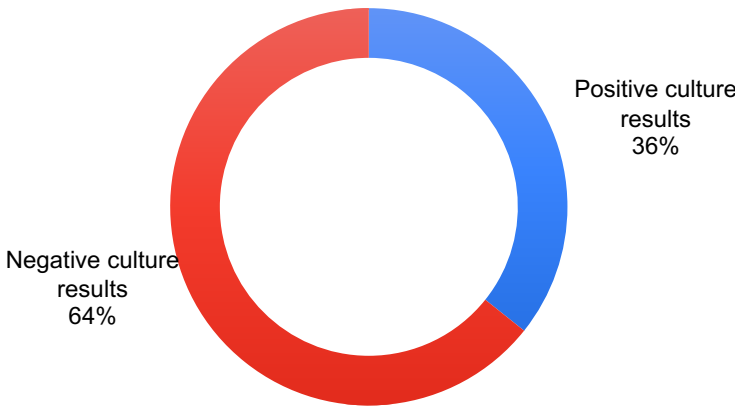
Peel packaging of IV bag	Chemotherapy	Packaging of medicals devices	Environnement
Dextrose 5% NaCl 0,9% PPI water vials	Azacitidine 5 fluouracile Pembrolizumab Daratumumab	Duoperf Spikes Fields Gloves Diffusers 2 days	Trash bin Compresses phone Floor of the unpacking room Storage trolley wheels

Species distribution among positive cultures



28 samples of which 18 positive

Results



Discussion :

- The folds of all solutes packaging were contaminated
- Staphylococcus, Bacillus and Enterococcus from the intestinal flora were identified in the sample from the wheels
- Enterococcus is caused by the fact that the wheels are not routinely tested. The trolley is moved from the storage room to the preparation room, so there is a risk of germ transfer.
- The absence of positive results among chemotherapy vials may be due to a laboratory rinse which can explain the absence of microbiological contamination of the vials

Conclusion :

- Our study is an overview of potential gateways into the ZAC.
- By comparing our positive results with those of the subcontractor laboratory we confirm the presence of Staphylococcus and Bacillus.
- The study highlights the presence of a new species: Enterococcus.
- Special attention should be paid to the folds of the peel packaging of IV bags

Actions :

- The wheels will be cleaned monthly and tested as a routine. We will limit the movement of the trolley.
- The removal of overpack bags of solutes before decontamination is being considered.
- Finally, it would be interesting to test the risk areas of the packaging of solutes after decontamination inside the isolator and to resample once the new procedures are in place to assess their effectiveness

Summary of results

	Dextrose folds of the peel packaging	packaging of dextrose IV bag	Packaging of Nacl IV bag	Duoperf	Bottom of the trash bin	Back of the phone	Wheels of the stockage trolley
Bacillus	X	X	X	X	X		x
Staphylococcus				X		X	X
Enterococcus							X