

ASPERGILLUS DETECTION IN HEALTHCARE ESTABLISHMENTS*

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* « Contrôle de la contamination aéroportée à l'Hôpital : Comparaison d'un impacteur sur gélose et d'un biocollecteur en milieu liquide pour la détection d'*Aspergillus* ». H.Vu-Thien et al. HygièneS N°5, Vol.XVI, Déc.08



CONTEXT

The monitoring of air contamination in healthcare establishments helps the prevention and the decrease of nosocomial infections. Airborne spores of pathogens microorganisms like *Aspergillus fumigatus* can be indeed responsible for severe diseases such as invasive aspergillosis.

To get a reliable control, it has to be performed with a representative sample of the surrounding air and easily analyzable by associated identification and measurement techniques.

MATERIALS

- Coriolis® Micro + sterile cone
- Collection liquid: Braun Water + Triton-X 0.005%
- Membrane of filtration
- Petri dishes + Sabouraud medium



Coriolis® Micro

PROTOCOL

- 1 m³ air sampling: 200 L/min during 5 minutes
- Sample filtration on membrane
- Filter deposit on Sabouraud agar plate
- Incubation 5 days at 37°C
- Identification by the Scotch® technique.

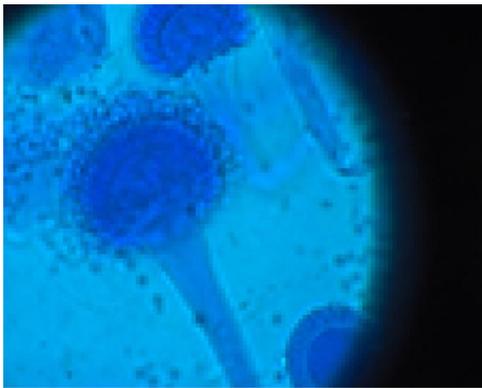


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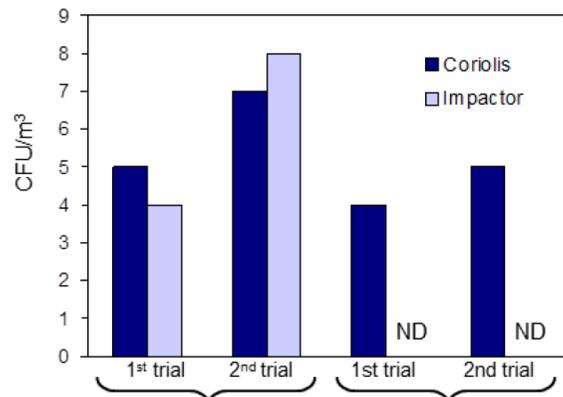
RESULTS

- Collection time: 2 times faster than impactor
- Sensible detection
- Better representativity

In low contaminated atmosphere: Coriolis® Micro collection efficiency ≥ Traditional air sampler



Aspergillus fumigatus®



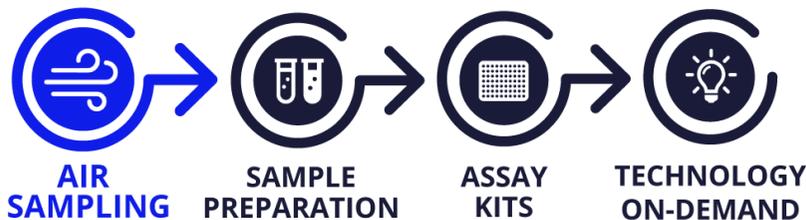
Intensive care internal corridor Intensive care external corridor
ND = Non detectable

CONCLUSION

The cyclonic technology offers an efficiency comparable to impaction for the *Aspergillus* collection. Thanks to a representative air sample, sensitive results can be obtained in a shorter time.

Furthermore, the sample is compatible with PCR analysis for higher specificity and rapid results in a few hours.

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