



AIRBORNE LATEX ALLERGENS CONTROL IN HOSPITAL ENVIRONMENTS

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CONTEXT

Latex product use has increased a lot over the last 20 years with a considerable incidence of allergy to latex (single-use products). **Latex sensitivity in the healthcare environment** is a health problem, particularly, for children poly-operated as Spina bifida patients and sanitary operators are concerned.

In this pilot study, we carried out the **environmental monitoring of latex allergens** in three different places in order to get quantitative data on airborne latex allergens in specific risky environments.

MATERIALS & PROTOCOLS

Materials

- Coriolis® μ , sterile cones, 15 ml of sterile collection liquid.
- Traditional method on PTFE filters (25 mm \varnothing - 1 μ m).
- ELISA tests (Indoor Biotechnologies).

Protocols

- Coriolis® μ : 2x20 min sampling for 3 days - 250 L/min - Quantification of liquid, sub-division, storage at -80°C.
- PTFE filters: 24 hours continuously sampling for three days - 14 L/min - Allergen extraction overnight in PBS, centrifugation, sub-division, storage at -80°C.
- Specific ELISA tests for allergens: *Hev b1*, *Hev b3*, *Hev b5*, *Hev b6.02*.





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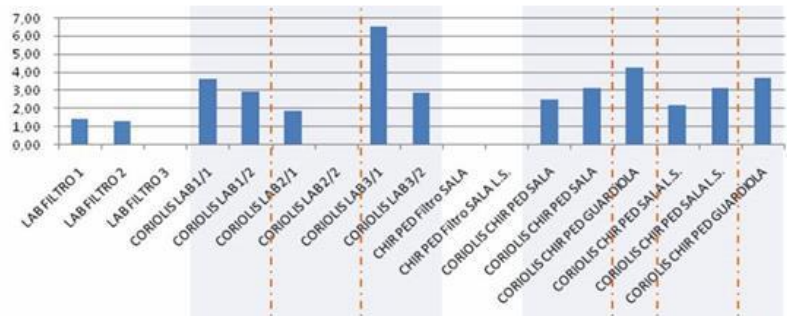
RESULTS

The results for Hev b1 (ng/m³), Hev b5, and Hev b6.02 show the efficiency of the Coriolis air sampler to collect airborne latex allergens; Hev b1 results are illustrated in the graph for the three rooms and for both equipment.

(1- a room of our laboratory in full operation and use of latex gloves, 2- an operating pediatric surgery room during normal activities, 2'- during activities in latex-safe conditions, and 3- near the nursery room).

Coriolis vs. PTFE positive data :

- Room 1: 5+/6 vs. 2+/3
- Room 2: 2+/2 vs. 0+/1
- Room 2': 2+/2 vs. 0+/1
- Room 3: 2+/2



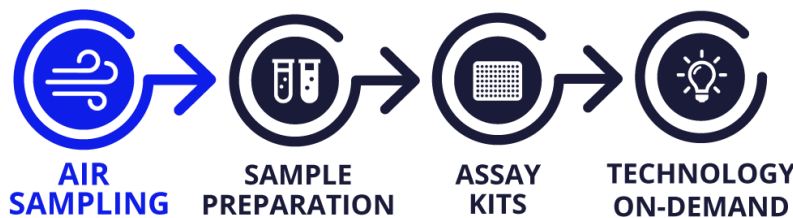
CONCLUSION

These preliminary results indicate that Coriolis[®]μ is a suitable method for the sampling of airborne allergens of latex by reducing the time of sampling (20 min vs. 24h) and increasing the efficiency.

Furthermore, the Coriolis[®]μ air sampler collects any airborne particles and can also give information on specific airborne microorganisms, pollens, viruses...



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