BIRCH ALLERGENS QUANTIFICATION WITH CORIOLIS AIR SAMPLER

ZAUM, Germany

CONTEXT

The information provided by pollen grains and spores counts cannot be ignored by allergists and allergic individuals but there is sometimes a divergence observed with clinical observations. It has led to measure directly airborne allergens during pollen season to determine a rate of allergenicity in the air.
In this study, the birch pollen, which is a major pollen across the Europe, was monitored during the birch pollen season 2008 (April) in Munich. Sampling birch pollen with Coriolis® operated with a "dry cone" (no collection liquid) and measuring the extracted allergen Bet v1 with ELISA assay were carried out.

MATERIALS

- Coriolis® Micro
- Coriolis® plastic cones
- Burkard pollen trap (moving adhesive band)
- Monoclonal Bet v 1 specific antibodies assay

Coriolis® Micro

PROTOCOL

Bet v1 quantification: 6h daily sampling with Coriolis®; 200L/min; allergen extraction with NH4HCO3 pH8.1 + 0.1% BSA; centrifugation; sub-division of supernatant and storage at -80°C, immuno-assay

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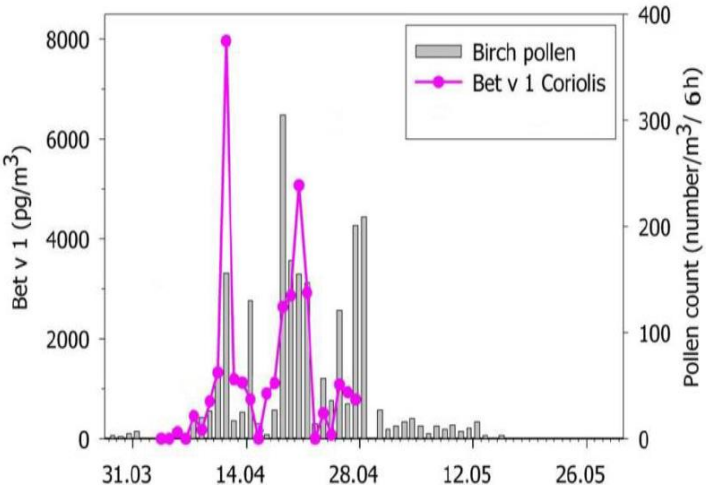
RESULTS

Similar temporal evolution is observed between Bet v1 allergens concentration and birch pollen count: high levels of Bet v1 sampled with Coriolis® were found on all days with high pollen flight, low levels of allergen on all days with low pollen count.



CONCLUSION

Birch pollen sampling with Coriolis® operated with a dry cone is an efficient sampling technique for determining *Bet v1* in ambient air. This methodology is also applicable to other allergenic pollen grains.

Data on allergens is much more interesting than only pollen grain counts in order to deliver better information for clinicians and atopic people.

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