including IL-1β, IL-6, IL-8, and TNF-α. Histological examination of lung sections showed mild inflammatory infiltrates, occasional small alveolar hemorrhages, and an increased count of mast and tuft cells. Conversely, telocyte density was reduced following HOCl exposure.
Conclusion: The immunological, cytological, and histopathological findings indicate variable responses to HOCl inhalation, ranging from damage to inflammation within the respiratory system. Further studies are necessary to assess long-term consequences, as HOCl exposure may disrupt pulmonary immunocytological regulatory circuits, potentially eliciting allergic reactions and fibrotic changes.
Conflicts of Interest: The authors did not specify any links of interest.

100467 | Evaluating the impact of air cleaning devices on novel allergens: Silkworm allergen – *Bombyx mori* (Bom m 1)

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Background: Silkworm allergen (Bom m 1), the major allergen of silkworm pupae (Bombyx mori), is an emerging environmental allergen with significant risks for human health particularly in East Asia, Africa, and Latin America. Widely consumed as food or used in traditional medicine, silkworm can trigger severe allergic reactions, including anaphylaxis, urticaria, dermatitis and death in severe cases of sensitized individuals. It is also a potential occupational hazard as silk threads are used for weaving silk cloths and particulates can be inhaled, through aerosolization, which is a key factor in triggering respiratory issues like asthma. Evaluating the impact of air cleaning devices can play a crucial role in improving indoor air quality in modern homes and businesses and reduce the impact of novel allergens.
Method: The study outlined previews an initial study of an air cleaning device and its ability to effectively reduce airborne silkworm allergen.
Air Cleaner Testing:

a. The air cleaner was placed in the center of an environmental test chamber conditioned to 20°C (±3 °C) and 55% (±5 %) relative humidity.
b. Background air samples were collected.
c. 12 grams of Silkworm allergen of particle size <212 micron was introduced into the test chamber.
d. Air samples were collected at the time of dust introduction (time = 0) to assess the initial quantity of Bom m 1.
e. The air cleaner was switched on and additional air samples were collected at timepoints = 15, 30, and 60 minutes to assess airborne silkworm reduction over time.

Results: The % reduction of total airborne particles/m^3 in the test runs, with the air cleaner operating, increased from 49% at 15 min to 98% at 30 min and after a 60-minute operating period the % reduction was >99.9% when compared with control runs.
Conclusion: The air cleaner reduced airborne *Bom 1* particles in the size range of 0.3 – 3.0 microns, which are most associated with respiratory issues in sensitized individuals. The air cleaner had a marked reducing effect on airborne silkworm allergen above that of natural decay to a point of >99.9% particle reduction after 60 minutes.
Conflicts of Interest: The authors did not specify any links of interest.

100511 | Identifying bioaerosol diversity in the atmosphere of Vilnius, Lithuania, by molecular methods: Hints to clarify human bio-exposome

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Background: Monitoring biological air particles is fundamental to prevent the spread of airborne allergic and infectious diseases. Traditional aerobiological identifications to track some bioaerosols, such as fungi, bacteria and viruses, poses significant challenges as accurate identification can be exceedingly difficult. Molecular methods can be useful to identify the biodiversity of the human exposome. The aim of this work was to compare de efficacy of different sample collectors for monitoring bioaerosols by molecular methods.
Method: The work was performed within the framework of the COST-ADOPT program. Sampling was performed using 4 different volumetric air samplers (VAS), each adjusted to 2 m^3: a) 7-day multi-vial cyclone (Burkard); b) Coriolis μ (Bertin); c) Personal Volumetric Air Sampler (PVAS); d) microbiological air sampler (SAS). Collection surfaces on PVAS (c) consisted of filter paper or glass slide, while SAS (d) consisted of polypropylene surface dry or Vaseline coated. The two cyclones, Burkard

(a) and Coriolis μ (b) used dry sampling. Sampling was done in June 2023 at 4 locations at Vilnius (Lithuania) vicinity: airfield (A); chicken farm (CF); dump site (D); university campus (UC). Total DNA was obtained using the NZY mag viral RNA/DNA isolation kit. DNA yield ([DNA]) was measured using a NanoDrop One.

Results: Significant differences were observed in the total [DNA] between different volumetric equipment ($p=0.009$). The highest [DNA], 7.13 ±3.07 ng/m^3, was obtained with the Coriolis μ (b), compared to 4.02±2.99, 3.85 ±2.32 PVAS (c) and for the cyclone-B (a), respectively, and 2.02 ±1.10 ng/m^3 for SAS (d). We found no difference in [DNA] when changing sampling media on either the SAS (d) or the PVAS (c) sampler. Considering the different locations, high variability was observed with the Chicken Farm exhibiting the lowest [DNA].

Conclusion: These results indicate that the choice of sampling methodology significantly impacts the total amount of DNA collected, limiting the molecular sequencing opportunities and biodiversity analysis. This work contributes to a better understanding of the efficiency of different sampling methodologies, providing valuable insights on airborne biodiversity and human bioaerosol exposure.

Conflicts of Interest: The authors did not specify any links of interest.

Allergen immunotherapy 03

000026 | Effectiveness and safety of specific sublingual immunotherapy with Pru p3 extract in patients with LTP allergy

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Background: Non-specific lipid transfer proteins (nsLTPs) are widely distributed in the plant kingdom and are the most common cause of food allergy in adults from Mediterranean countries. Pru p3 (the LTP from peach) is the most relevant allergen and is usually the primary sensitizer. The dietary management of patients with LTP allergy must be personalized according to their sensitization profile. Currently, a purified extract of Pru p3 is available for sublingual administration, which has demonstrated efficacy and safety in the adult population, with limited evidence in pediatric cases.

Method: Retrospective observational case series study of patients diagnosed with lipid transfer protein (LTP) allergy treated with specific sublingual immunotherapy (SLIT) using Pru p3 extract. Baseline characteristics and effectiveness were assessed after a controlled oral food challenge (OFC) with GRANINI peach juice one year following the initiation of immunotherapy. Results were expressed as median values.

Results: A total of 11 patients were included. Age at onset of symptoms: 3 (1-7) years, weight 15.8 (10.4-29) kg, and height 98.4 (81.6-134) cm. Time from first reaction to diagnosis: 3 months (1 month-4 years). 64% were female. The most frequent comorbidity was asthma (54.5%). The food most commonly implicated in the first allergic reaction was peach (3 patients), followed by walnut and almond (2 patients for each nut). The most prevalent clinical manifestation in the first allergic reaction was anaphylaxis (45.5%). 40% of anaphylactic reactions received intramuscular epinephrine. 100% experienced an allergic reaction to another food containing LTP, with 2 patients suffering more than one anaphylactic episode. 100% had a positive prick test to LTP, and the IgE level to Pru p3 was 9 kUA/l (1.93-93.3 kUA/l). Nine patients have started SLIT, with two still pending initiation. No side effects from SLIT were reported. Three patients underwent a controlled oral food challenge (OFC), showing good tolerance. One of these three patients later experienced an anaphylactic reaction to a nut.

Conclusion: SLIT with Pru p3 is effective and safe in patients with LTP allergy, demonstrating good tolerance to peach juice one year after treatment initiation.

Conflicts of Interest: The authors did not specify any links of interest.

000041 | Safety and efficacy of a 7-week immunotherapy protocol with aluminum hydroxide adsorbed bee venom

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Background: Hymenoptera venom allergy is a frequent cause of anaphylactic reactions in Europe. Even though venom immunotherapy (VIT) is an effective, causal treatment protecting 77–84% of patients treated with honeybee venom, and 91–96% of patients receiving vespid venom from future systemic sting reactions (SSR), poor therapy adherence has been observed in Austria.

Current conventional up-dosing protocols are still time-consuming for patients and, therefore, we initiated a prospective clinical trial evaluating the safety and efficacy of an accelerated up-dosing protocol with 8 weekly injections in 7 weeks to enhance the acceptance of this successful treatment. An accelerated protocol for vespid venom allergic patients has already been published by our study group.

Method: Seventy-six bee venom allergic patients with a history of a SSR were included. During the up-dosing phase, patients were treated with oral non-sedative antihistamines one hour prior to injections. The purified, aluminum hydroxide adsorbed bee venom preparation from ALK-Abelló (Hørsholm, Denmark) was administered with an initial dose of 1μg followed by 5, 10, 20, 40, 60, 80, and 100μg at 1-week-intervals. To assess efficacy, sting challenges with living bees were performed, whenever possible, one week after reaching the maintenance phase.

Results: Seventy-three patients completed the up-dosing phase. Of these patients, only seven (9.6%, one-sided exact 97.5% confidence interval (CI) 0.00-18.76) showed objective symptoms which were mild to moderate, and two (2.7%, one-sided exact 97.5% CI 0.00-9.55) additional patients developed subjective systemic reactions (SR). Nineteen (26.0%) patients experienced large local reactions, the majority just once or twice. Elevated