Results: Of 222,644,308 adult patients, there were 458,303 (0.2%) patients with documented radiocontrast allergy and 1,282,521 (0.57%) with SLE in the NIS. In patients with SLE, 1.1% had documented radiocontrast allergy while 0.6% had no documented radiocontrast allergy. Patients with SLE had 42% increased odds of radiocontrast allergy compared to patients without SLE, OR 1.424 (1.368, 1.483), p <.0001.
Conclusion: Patients with SLE have a statistically higher documented radiocontrast allergy compared to patients without SLE.

P021

RESULTS OF A REPEAT DOSE STUDY ON THE PHARMACOKINETICS OF A SUBLINGUAL FILM USING A NOVEL PRODRUG OF EPINEPHRINE (DESF)

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Introduction: DESF is the first and only orally delivered epinephrine product candidate in clinical development and has the same target indication as that for Epinephrine injection in the emergency treatment of Type 1 allergic reactions. A pre-clinical study was conducted to compare the pharmacokinetic profiles of epinephrine following administration of DESF via one or two dissolvable films in miniature swine.
Methods: A total of 20 male Yucatan miniature swine were used for this study. Animals were separated into two groups and received either one or two doses of DESF 12 mg 10 minutes apart. Following dose administration, the animals had pharmacokinetic (PK) blood samples obtained at multiple time-points, with Oral Mucositis Assessment Scale (OMAS) scores performed at pre-dose, 4 hours, and 24 hours post-dose.
Results: No mortality/moribundity occurred during the study. The group receiving a single dose had an expected lower mean Cmax (11.1 vs 24.7 ng/ml) and AUC (738.5 vs 1314 ng/ml*min) than the group receiving repeated doses. The Cmax ratio and AUC ratio were similar at 2.23 and 1.78, respectively. Tmax was established at around 30 min. for the single dose group and at around 40 min. for those receiving a repeat dose. The overall PK profiles showed similar patterns between the two groups.
Conclusion: DESF demonstrates dose proportional PK when a second dose is administered 10 minutes after the first done. These results suggest that a different treatment delivery modality for epinephrine is possible and could address significant unmet need in patients.

P022

MINIMAL IMPACT OF FOOD, DRINK, OR TEMPERATURE ON THE PHARMACOKINETICS OF A SUBLINGUAL FILM USING AA NOVEL PRODRUG OF EPINEPHRINE (DESF)

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Introduction: DESF is a novel alternative dosage form to Epinephrine injection. A pre-clinical study was conducted to test the effect of sublingual temperature (SL) and if exposure of the sublingual mucosa to food or drink prior to administration of DESF has an impact on the PK profile of epinephrine *in vivo*.
Methods: A total of 18 male Yucatan miniature swine, separated into three groups and dosed with DESF 12 mg, were used for this study. Group 1 did not receive a pre-treatment. Groups 2 and 3 were pre-treated with either full-fat whole milk or extra virgin olive oil or with either warm or cool compresses at the dose site. Following dosage, the animals had Pharmacokinetics (PK) blood samples obtained at multiple timepoints, with Oral Mucositis Assessment Scale scores performed at pre-dose, 4-, and 24-hours post-dose.
Results: Similar PK profiles were observed for epinephrine regardless of pretreatment of food and drink. Groups pretreated with milk or oil displayed a mean Cmax and AUC similar to or higher than the control group. Tmax was similar for all treatment groups, between 25 to 30 minutes. As for the impact of temperature, pre-treatment with a warm or cool compress did not result in significantly different SL temperatures. Similar PK profiles were also observed for epinephrine regardless of pre-treatment. Simple linear regression analysis suggests that there was not a strong relationship between SL temperature and Cmax.
Conclusion: These results suggest that food, drink, and temperature each have minimal impact on the PK profiles of DESF.

P023

RISK OF ANAPHYLAXIS TO THE COMPONENTS OF THE COVID-19 VACCINE: A STUDY IN MEXICAN POPULATION

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Introduction: Doubts about potential allergic reactions emerged with reports around the world in COVID-19 vaccination. In this abstract, we present the clinical features and comorbidities of patients with a history of anaphylactic reactions to the components of the COVID-19 vaccine and other triggering factors.
Methods: A digital survey was carried out after accepting the informed consent with a self-report of the most common symptoms of anaphylaxis. The most common triggering factors were evaluated in anaphylaxis, also the use of drugs whose components are polyethyleneglycol and polysorbates. Subsequently, a follow-up was carried out to evaluate the experience with the application of the COVID-19 vaccine.
Results: This study enrolled 600 subjects over 18 years. The risk of stratification of anaphylaxis to the components of the COVID-19 vaccine was: high (1%), medium (11%), and mild (88%). 5 women were at high risk, 3 reported a history of atopy, 2 patients received the COVID-19 vaccine despite its high risk without presenting serious allergic reactions. 65 patients with a history of anaphylaxis to other triggers were obtained: food (32.9%), injected medications (27.2%), vaccines (13.9%), insects (15.8%), latex (10.1%). The most prevalent allergic history was allergic rhinitis and the thyroid diseases ranked first as comorbidity. 76.9% of medium-risk patients received at least one dose of the COVID-19 vaccine without reporting anaphylaxis, the remaining percentage lost follow-up. 530 participants were at mild risk.
Conclusions: The risk of anaphylaxis to the components of the COVID-19 vaccine is low. Anaphylaxis cases prior to other triggers do not predispose to increased risk in COVID-19 vaccination.

Aerobiology, Allergens, Allergen Extracts

P030

INNOVATIVE COMPOUNDS TO REDUCE SS-D-GLUCANS, ENDOTOXIN, AND ALLERGENS NEWLY DISCOVERED ON SMARTPHONES

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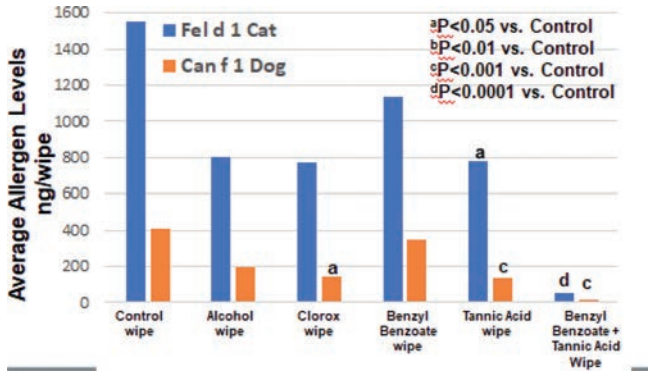
Introduction: 84% of people own smartphones and view them 14 billion times daily, making them potential vectors for environmental hazards such as allergens, β-D glucans (BDG) and endotoxin. Whether these toxins are prevalent and the effectiveness of cleaning solutions targeting these agents on smartphones has not been studied. Objective: To determine (1) whether phones are reservoirs of allergen, endotoxin and BDG and, (2) if present can be effectively reduced using specific cleaning methods.
Methods: ElectroStatic Wipes (ESW) used to wipe phones of 15 volunteers were measured for allergens, BDG, and endotoxin levels.

Cleaning interventions were done on simulated phone models testing 70% isopropyl alcohol, Clorox non-bleach (0.184% benzyl and ethyl benzyl ammonium chloride), 0.12% chlorhexidine, 0.05% cetylpyridinium, 3% benzyl benzoate, and 3% tannic acid wipes compared to no solution wipes (control).
Results: Smartphones showedhigh and variable levels of BDG and endotoxin. Cat and dog allergens were mostly found on smartphones of pet owners. Combination chlorhexidine/cetylpyridinium significantly reduced BDG (mean 269 versus 1.925 control, ng/wipe, P<0.05) and endotoxin, (mean 349 versus 1320 control, EU/wipe, P<0.05). Combination benzyl benzoate/tannic acid significantly reduced cat and dog allergens (dog: mean 14 versus 407 control, ng/wipeP<0.001; cat: mean 55 versus 1550 control, ng/wipe, P<0.001). The combination mixture solutions had the greatest reductions compared to control.
Conclusions: There are elevated levels of BDG, allergens, and endotoxin on smartphones. Combination chlorhexidine/cetylpyridinium was the most effective in reducing BDG and endotoxin and combination benzyl benzoate/tannic acid most effectively reduced cat and dog allergens on smartphones.



Allergen Levels by Cleaning Solution on Smartphones

P031

CHARACTERIZATION OF COMMERCIAL DOG ALLERGEN EXTRACTS, INCLUDING NEW ULTRAFILTERED DOG EXTRACT

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Introduction: There are several FDA-approved glycerinated dog allergen extracts indicated for dog allergy diagnostics and immunotherapy. The study objective was to characterize the extracts using commercially available and in-house analytical methods.
Methods: Total protein, Can-f-1 major allergen, and Can-f-3 allergen content was quantified for three conventional (1:10w/v Hair/Dander, 1:20w/v Epithelia, and 1:20w/v Epithelium) and two concentrated (1:100w/v Acetone-Precipitated Hair/Dander and 1:650w/v Ultrafiltered Hair/Dander) dog extracts. Allergen profiles were qualitatively compared using Western Blotting. Compositional analysis was completed using Mass Spectroscopy.
Results: Concentrated dog extracts contained the highest total protein and Can-f-1 content, and moderate Can-f-3 allergen: on average 246ug/mL total protein, 171ug/mL Can-f-1, and 40ug/mL Can-f-3 for AP-Dog and 412ug/mL total protein, 183ug/mL Can-f-1, and 70ug/mL Can-f-3 for UF-Dog. For conventionally produced dog extracts, total protein ranged from 23 to 186ug/mL, Can-f-1 ranged from less than 1 to 10ug/mL, and Can-f-3 ranged from 2 to 10ug/mL for two extracts, while the third had the highest Can-f-3 at 300ug/mL. Comprehensive allergen profiles were observed for all dog extracts by Western Blotting; however, two conventional extracts required concentrating to increase protein load for detection. Analysis by Mass Spectroscopy confirmed the presence or near absence of Can-f-1 and Can-f-3, and identified other allergens or proteins in each of the five extracts.
Conclusions: Concentrated extracts (AP-Dog and UF-Dog) contain up to 35 times more critical Can-f-1 major allergen and moderate amounts of Can-f-3 allergen compared to conventionally produced extracts. The concentrated extracts make it possible to achieve 15ug Can-f-1 probable effective dose for immunotherapy.

P032

FUNGUS AMONG US? THE ASSOCIATION BETWEEN FUNGAL DERMATOPHYTES AND ALLERGIC HYPERSENSITIVITY REACTIONS

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Introduction: The dermatophyte *Trichophyton rubrum t*ypically infects human skin, hair, and nails and causes common cutaneous manifestations such as athlete's foot and fungal nail infections. However, it has been proposed that sensitization, characterized by high levels of circulating IgE, to this allergen is a risk factor for future development of severe asthma. We surveyed the current literature to find clinical associations.
Methods: A systematic review was conducted using PubMed, Embase, and Web of Science using the search terms "*Trichophyton rubrum* AND rhinosinusitis OR asthma OR rhinitis OR conjunctivitis OR allergic fungal sinusitis OR allergic bronchopulmonary aspergillosis". Only studies with clinical data were used.
Results: Four studies met inclusion criteria with 356 total patients. They consisted of a case report presenting bronchial asthma and dystrophic toenails whose KOH scrapings isolated *Trichophyton rubrum* (n=1), a case series of patients with positive skin-prick- tests and bronchial reactivity to *Trichophyton* with moderately severe asthma (n=11), a cohort which completed allergen sensitization for *Trichophyton* with high positivity rates associated with moderate asthma (n=258), and a case series investigating the role of inhaling *Trichophyton* and its association with asthma (n=86). In these studies, patients treated with systemic steroids (n=12) showed minimal change in pulmonary function tests. After treatment with both oral and topical antifungals (n=12), patients reported a resolution of asthma symptoms leading to a concurrent cessation of allergy medications.
Conclusions: This systematic review identified rare but important association of hypersensitivity to *Trichophyton rubrum* and the development of severe asthma. Treatment with antifungal agents was more effective than allergy medications.

P033

PILOT STUDY OF MODIFIED ROTATING ARM IMPACTOR FOR USE IN AEROBIOLOGICAL STUDIES

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Introduction: Utilized in aerobiological studies, the Rotarod Sampler (IQVIA) remains the gold standard in determining volumetric ambient airborne pollen concentration. However, utilization comes at the cost of high energy consumption, start-up and maintenance fees, and variable air patterns generated by rotating I-rods. We present a prototype to address the aforementioned issues: a battery-powered rotating arm impactor utilizing slides as opposed to rods.
Methods: The Rotorod Sampler Model 40 and prototype were situated in the same area and height, equipped with two rods and two slides coated with silicone grease, respectively. 7 atmospheric samples were collected and counted at various intervals over an 18-day period in June 2022, and directly compared.
Results: The prototype was created using 3D printing, with a 24×24 -millimeter exposure of each slide for sample collection. The prototype's speed was set at 10 revolutions per minute (RPM), while the Rotarod Sampler was set at 2400 rpm and utilized standard 31×1-millimeter sampler rods. Prototype battery needed to be replaced on days 2 and 18, and consequently may have impacted results. Mean pollen count and