

Online Supplement

Original Research

Allergic Sensitization and Serum Immunoglobulin E in Eosinophilic COPD

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Table S1. Questionnaire items on household pets, pests, and indoor moisture exposures

	Questionnaire
Cat	What kinds of pets, if any, live in your home now? (check all that apply)
Dog	
Cockroaches	Have you seen or noticed signs of cockroaches in your home?
Mice	Have you seen or noticed signs of mice in your home?
Water damage or dampness	During the past 12 months has there been water or dampness in your residence from broken pipes, leaks, heavy rain, or floods?
Mildew/musty odor	Does your residence have a mildew odor or musty smell?

Table S2. Odds of COPD hospitalization in the past year in association with atopic risk factors in eosinophilic COPD.

Atopic Risk Factor	OR of hospitalization due to COPD in the past year	95% CI	P-value
Asthma diagnosis	1.63	0.66-4.16	0.291
Seasonal allergies	0.46	0.18-1.12	0.090
Elevated IgE (≥ 100 IU/mL)	0.72	0.24-1.94	0.536
Any aeroallergen sensitivity	0.80	0.33-1.92	0.624
Sensitivity to aeroallergen type			
Mammals	0.45	0.12-1.3	0.175
Arthropods	1.62	0.60-4.16	0.322
Fungi	0.87	0.27-2.43	0.802
Grass/Weeds	0.29	0.02-1.53	0.237
Trees	0.43	0.12-1.27	0.160

Table S3. Sensitivity analysis adjusting for FEV₁: Odds of COPD hospitalization in the past year in association with atopic risk factors in eosinophilic COPD.

Atopic Risk Factor	OR of hospitalization due to COPD in the past year	95% CI	P-value
Asthma diagnosis	2.00	0.78-5.33	0.154
Seasonal allergies	0.41	0.16-1.05	0.066
Elevated IgE (≥ 100 IU/mL)	0.59	0.19-1.63	0.329
Any aeroallergen sensitivity	0.84	0.33-2.09	0.711
Sensitivity to aeroallergen type			
Mammals	0.41	0.11-1.23	0.141
Arthropods	1.81	0.66-4.84	0.236
Fungi	1.02	0.30-2.99	0.971
Grass/Weeds	0.25	0.01-1.46	0.208
Trees	0.47	0.12-1.45	0.225

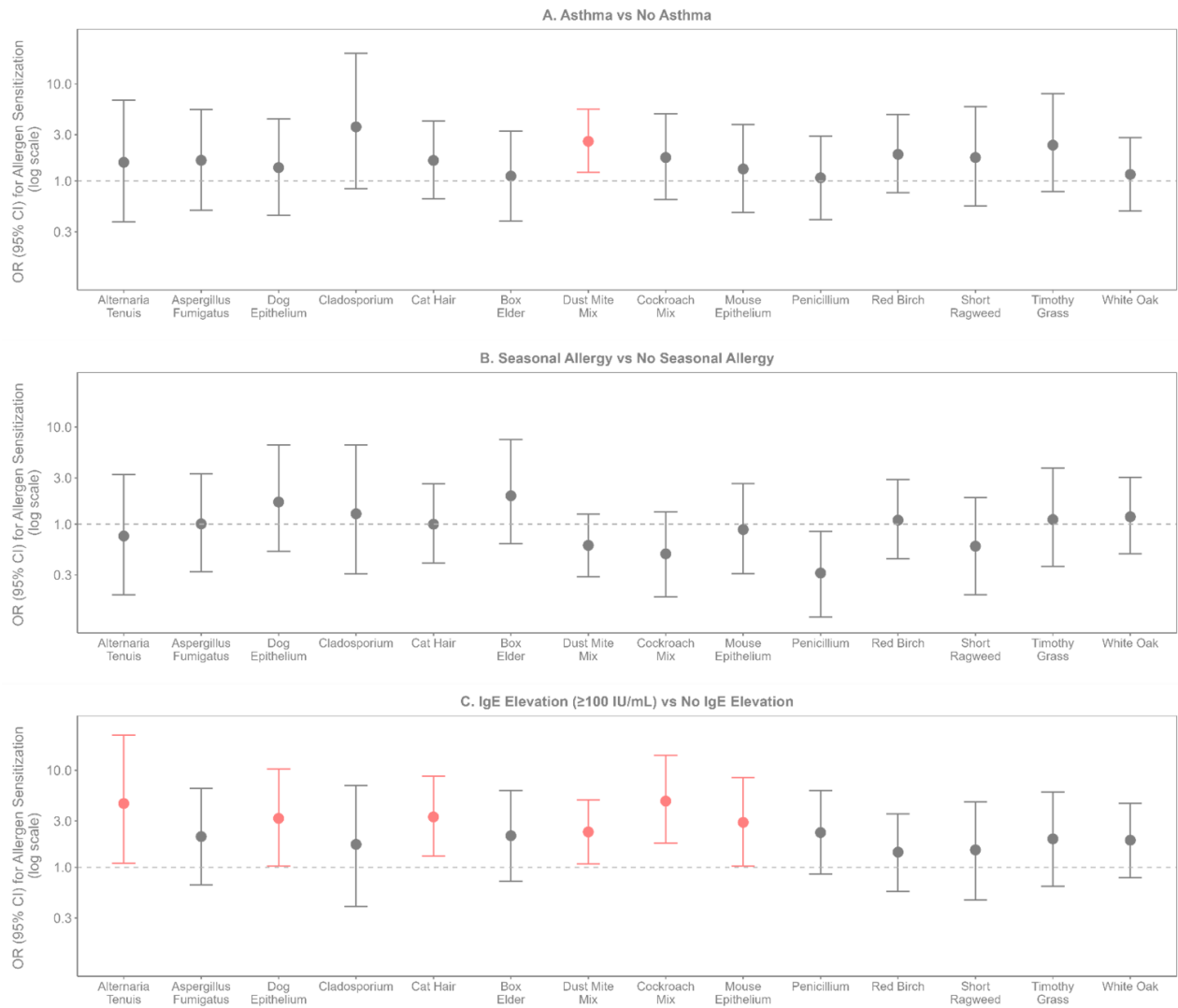


Figure S1. Associations of asthma, seasonal allergy and IgE elevation with odds of allergic sensitization to aeroallergens.

Note: Red points indicate statistically significant associations ($p < 0.05$). OR and 95% CI are shown for the association between each predictor and sensitization to the indicated allergen groups. Predictors include: Asthma (comparison: Asthma vs No Asthma), Seasonal Allergy (comparison: Seasonal Allergy vs No Seasonal Allergy), and IgE Elevation (comparison: IgE Elevation ≥ 100 IU/mL vs No IgE Elevation). The y-axis represents the estimated OR (on a logarithmic scale) for allergic sensitization to each allergen (listed on the x-axis), corresponding to the presence versus absence of each predictor.

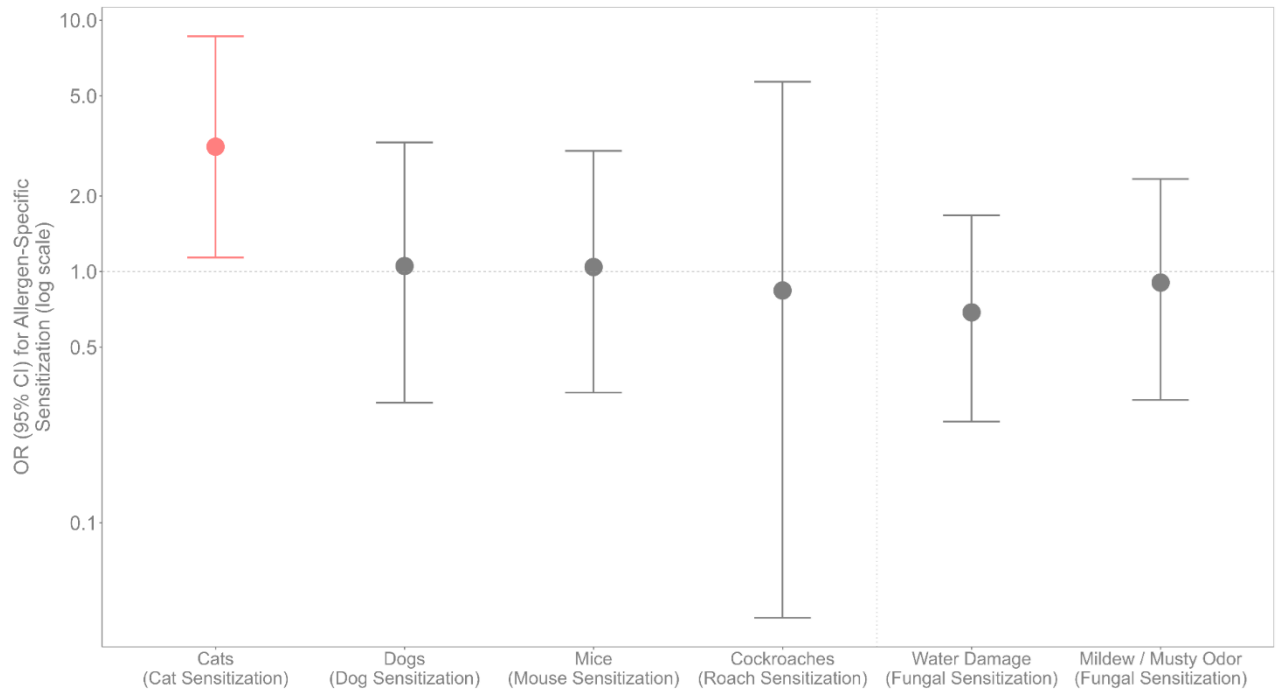


Figure S2. Sensitivity analysis adjusting for FEV₁: Self-reported cat, dog, mouse, cockroach, and moisture-related home exposures in the home and the odds of sensitivity on skin prick testing to these specific allergens

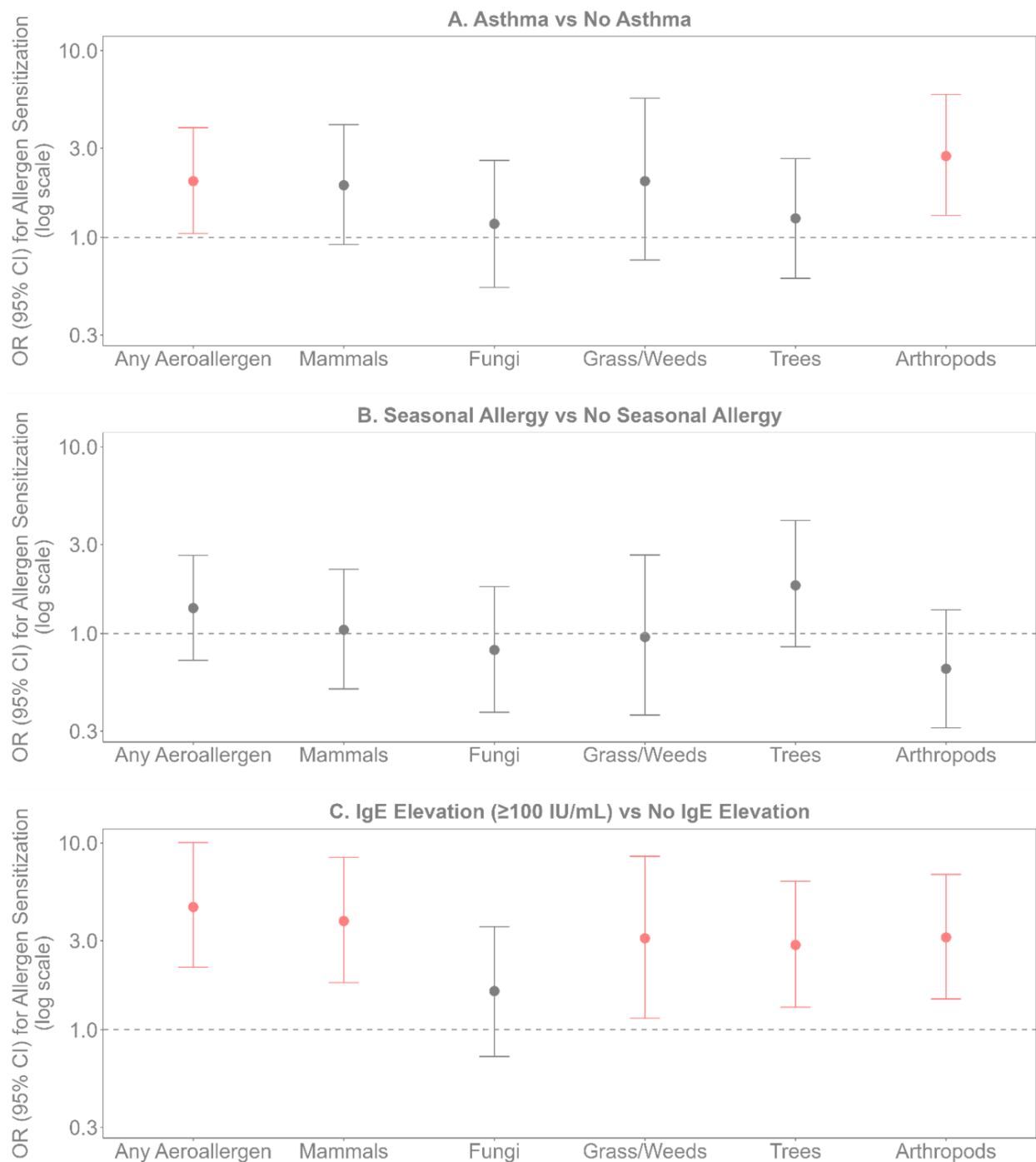


Figure S3. Sensitivity analysis adjusting for FEV₁: Associations of asthma, seasonal allergy and IgE elevation with odds of allergic sensitization to aeroallergens.

Note: Red points indicate statistically significant associations ($p < 0.05$). OR and 95% CI are shown for the association between each predictor and sensitization to the indicated allergen groups. Predictors include: Asthma (comparison: Asthma vs No Asthma), Seasonal Allergy (comparison: Seasonal Allergy vs No Seasonal Allergy), and total IgE elevation (comparison: IgE elevation ≥ 100

IU/mL vs no IgE elevation). The y-axis represents the estimated OR (on a logarithmic scale) for allergic sensitization to each allergen (listed on the x-axis), corresponding to the presence versus absence of each predictor.