Occupation versus environmental factors in hypersensitivity pneumonitis: population attributable risk

Appendix Tables

Table A1. Demographics, smoking, and health status for HP study participants by referral location.			
Subject Characteristics	UCSF HP cases n=44	IHCDS HP cases n=143	p-value
Demographics			
Age in years, mean±SD	61.67 (10.2)	61.71 (14.1)	1.0000
Female, n (%)	29 (66%)	92 (64%)	0.8090
White, non-Hispanic, n (%)	44 (100%)	123 (84%)	0.0047
Annual family income <$40,000, n (%)	29* (71%)	96* (70%)	0.9007
Smoking			
Current smoker, n (%)	0 (0%)	15 (10%)	0.0295
Ever cigarette smoker, n (%)	22 (50%)	82 (57%)	0.4153
Packs per day among ever smokers, mean±SD	0.80 (0.66)	0.75 (0.57)	0.6249
Pack years among ever smokers, mean±SD	15.50 (7.68)	12.99 (6.61)	0.0355
Comorbidities and Health Status			
Allergies or Hay Fever, n (%),	16 (36%)	86 (60%)	0.0053
Hypertension, n (%)	8* (19%)	61 (43%)	0.0045
Diabetes Mellitus, n (%)	8 (18%)	27 (19%)	0.8822
Short-Form (SF)-12 Health Status			
Physical Component Score (PCS)-12, mean±SD	35.37 (10.03)	39.01 (11.58)	0.0576
Mental Component Score (MCS)-12, mean±SD	50.82 (12.05)	50.94 (10.60)	0.9495

* Income status missing for 3 UCSF and 6 IHCDS patients; hypertension status missing for 1 UCSF patient; SF-12 health status missing for 7 IHCDS and 1 UCSF patient.

Table A2. Lung Function and Biomarkers in 118 Cases and 106 Referents Pre-Imputation							
Variable	Cases		Referents		OR	95% CI	P value
	Frequency	Missing values (%)	Frequency	Missing values (%)	Cases vs. Ref		
FEV1% and FVC% both <80% predicted	61.06	4%	25.00	6%	4.71	2.61-8.49	<0.01
Exhaled NO PPB, median (IQR)	22.4 (14.3)	1%	17.8 (9.8)	7%	1.03	1.01-1.06	0.01
Alveolar NO PPB, median (IQR)	3.79 (5.0)	1%	2.16 (4.9)	7%	1.06	0.98-1.15	0.13
Elevated serum avian antibody (> 2 mcg/ml)	13.91	3%	1.19	21%	1.65	1.36-2.01	<0.01
Elevated serum mould precipitins (3+ to 4+)	15.79	3%	6.25	25%	2.81	0.99-7.92	0.04
KL-6 > 90th percentile (29.3 U/ml)	19.13	3%	10.71	21%	1.97	0.86-4.53	0.11
High sensitivity CRP >90th % (1.8 mcg/ml)	23.48	1%	5.95	7%	4.85	1.78-13.12	<0.01
CC16 >90th % (16.2 ng/ml)	36.28	3%	10.00	21%	5.13	2.25-11.69	<0.01
sST2 >90th % (20.9 ng/ml)	28.32	4%	10.00	25%	3.56	1.54-8.21	<0.01

Frequency % or median (Interquartile range). Ref= Referent. OR is for univariate analyses

Table A3: Variables entered into the imputation model	
Variable	Variable Type
Case vs. Referent Status	Dichotomous
Demographics	
Age	Continuous
Sex	Dichotomous
Annual family income	Dichotomous
Baseline characteristics	Continuous
Ever Smoking	Dichotomous
Hypertension	Dichotomous
Diabetes	Dichotomous
Allergies or hay fever	Dichotomous
Physical Component Score (PCS)-12	Continuous
Mental Component Score (MCS)-12	Continuous
Risk factors	
Any Occupational Exposure	Dichotomous
Desert Cooler/Humidifier	Dichotomous
Bird (non-occupational)	Dichotomous
Fish Tank/ Reptiles/ Amphibians	Dichotomous
Any mould (non-occupational)	Dichotomous
Textile or Wood Hobbies	Dichotomous
Lung Function and Biomarkers	
Alveolar NO, PPB	Continuous
Exhaled NO, PPB	Continuous
Reduced FEV_1 and FVC	Dichotomous
High sensitivity CRP >90th %	Dichotomous
CC16 >90th %	Dichotomous
sST2 >90th %	Dichotomous

Table A4: Reported exposures, serum immunological testing, and self-reported exposures confirmed at home visit among subjects with serum available for analysis

Self-Reported Exposure	N	Mold precipitin + n (%)	Self-Reported Exposure Noted at Visit n (%)
All subjects	194	67 (35%)	Not Applicable
Any mould exposure	157	53 (34%)	Not Applicable
Home mould	97	33 (34%)	46 (47%)
Home Humidifier	58	17 (29%)	11 (19%)
Home Hot Tub	41	12 (26%)	24 (59%)
Home Swamp Cooler	5	3 (60%)	3 (60%)
Cases only	114	40 (35%)	Not Applicable
Any mold exposure	93	32 (34%)	Not Applicable
Home mould	57	19 (33%)	28 (49%)
Referents only	80	27 (34%)	Not Applicable
Any mold exposure	64	21 (33%)	Not Applicable
Home mould	40	14 (35%)	18 (45%)
		Avian IgG +	
All subjects	198	14 (7%)	Not Applicable
Any bird exposure	160	14 (9%)	Not Applicable
Birds at home	143	13 (9%)	88 (61%)
Cases only	114	14 (12%)	Not Applicable
Any bird exposure	95	14 (15%)	Not Applicable
Birds at home	80	13 (16%)	44 (55%)
Referents only	84	0 (0%)	Not Applicable
Any bird exposure	65	0 (0%)	Not Applicable
Birds at home	63	0 (0%)	44 (70%)

All exposures were elicited for a period of time within the last 5 years.
For humidifier, hot tub, and swamp cooler study participants who were mold precipitin +, the case/referent mix was: humidifier, 14/41 among cases and 3/17 among referents; hot tub, 6/27 among cases and 6/14 among referents; swamp cooler, 2/3 among cases and 1/2 among referents.