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| **Additional File 3. Comparison of patient characteristics based on positivity for allergen specific IgE** |
|   | Moth | Cockroach | House dust | *D. pteronyssinus* | *Candida* | Japanese cedar |
| Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative | Positive | Negative |
| Subject (%) | 34.3 | 65.7 | 22.4 | 77.6 | 25.7 | 74.3 | 25.7 | 74.3 | 22.9 | 77.1 | 38.6 | 61.4 |
| Male (%) | 91.3 | 80.0 | 93.3 | 80.8 | 100.0\* | 78.9 | 100.0\* | 78.9 | 100.0\* | 79.6 | 88.9 | 81.4 |
| Age (years) | 72.2 ± 1.5 | 73.4 ± 1.1 | 73.9 ± 1.9 | 72.8 ± 1.0 | 71.5 ± 1.7 | 73.4 ± 1.0 | 71.8 ± 1.7 | 73.3 ± 1.0 | 70.9 ± 1.8 | 73.5 ± 1.0 | 71.1 ± 1.4 | 74.0 ± 1.1 |
| Current smoker (%) | 17.4 | 4.6 | 6.7 | 9.6 | 16.7 | 9.6 | 22.2 | 7.7 | 31.3\* | 5.6 | 14.8 | 9.3 |
| Smoking history (pack-year) | 62.7 ± 8.6 | 66.9 ± 6.2 | 61.4 ± 10.6 | 66.7 ± 5.7 | 51.3 ± 9.5 | 69.2 ± 5.6 | 55.6 ± 9.5 | 67.8 ± 5.6 | 70.8 ± 10.2 | 62.8 ± 5.5 | 56.0 ± 7.8 | 70.0 ± 6.1 |
| FVC, %predicted | 105.5±4.0 | 106.5±2.9 | 100.4±4.8 | 107.8 ± 2.6 | 105.9 ± 4.4 | 106.7 ± 2.6 | 105.6 ± 4.4 | 106.8±2.6 | 105.3 ± 4.7 | 106.9±2.5 | 107.2 ± 3.6 | 106.1 ± 2.8 |
| FEV1, %predicted | 74.2 ± 5.2 | 78.0 ± 3.7 | 71.0 ± 6.4 | 78.4 ± 3.4 | 75.1 ± 5.8 | 77.8 ± 3.4 | 78.3 ± 5.8 | 76.7 ± 3.4 | 70.5 ± 6.1 | 79.0 ± 3.3 | 77.0 ± 4.7 | 77.1 ± 3.8 |
| FEV1/FVC ratio (%) | 55.9 ± 3.2 | 55.4 ± 2.3 | 55.6 ± 2.1 | 55.4 ± 3.9 | 57.5 ± 3.6 | 55.0 ± 2.1 | 59.5 ± 3.5 | 54.3 ± 2.1 | 53.5 ± 3.8 | 56.3 ± 2.1 | 55.5 ± 2.9 | 55.7 ± 2.3 |
| RV, % predicted | 119.8±6.5 | 116.7±4.7 | 134.8±8.6\* | 114.0 ± 4.0 | 119.2 ± 8.2 | 115.3±4.4 | 118.2 ± 8.2 | 115.6±4.4 | 120.0 ± 8.9 | 115.1±4.3 | 115.0 ± 6.3 | 116.9 ± 5.0 |
| DLco/VA, % predicted | 80.2 ± 6.3 | 74.1 ± 4.6 | 80.3 ± 8.7 | 75.3 ± 4.1 | 87.4 ± 7.4 | 73.7 ± 4.0 | 88.4 ± 7.4 | 73.4 ± 4.0 | 68.2 ± 8.2 | 78.9 ± 4.0 | 87.0 ± 5.6\* | 70.4 ± 4.4 |
| Symptom of asthma (%) | 52.4 | 34.2 | 38.5 | 40.8 | 64.7\* | 35.4 | 62.5 | 36.7 | 57.1 | 39.2 | 60.0\* | 32.5 |
| History of asthma (%) | 23.8 | 34.2 | 23.1 | 32.7 | 35.3 | 31.3 | 37.5 | 30.6 | 35.7 | 31.4 | 40.0 | 27.5 |
| FeNO (ppb) | 27.0 ± 3.3 | 26.3 ± 2.5 | 31.2 ± 4.2 | 25.2 ± 2.2 | 28.8 ± 3.8 | 25.9 ± 2.2 | 28.1 ± 3.8 | 26.1 ± 2.2 | 28.3 ± 3.9 | 26.1 ± 2.2 | 27.2 ± 3.2 | 26.3 ± 2.4 |
| Perennial allergic rhinitis (%) | 42.9\*\* | 7.3 | 46.2\*\* | 12.2 | 76.5\*\* | 4.2 | 75.0\*\* | 6.1 | 42.9\* | 17.7 | 28.0 | 20.0 |
| Airway reversibility positive (%) | 15.4 | 12.5 | 22.2 | 11.1 | 25.0 | 11.1 | 25.0 | 11.1 | 27.3 | 10.8 | 15.8 | 13.8 |
| Eosinophilia (%) | 30.4 | 38.6 | 13.3\* | 42.3 | 27.8 | 38.5 | 27.8 | 38.5 | 37.5 | 35.2 | 44.4 | 30.2 |
| Eosinophil counts (cells/μl) | 191 ± 35 | 253 ± 25 | 179 ± 43 | 247 ± 23 | 224 ± 39 | 239 ± 23 | 228 ± 39 | 238 ± 23 | 243 ± 42 | 233 ± 23 | 262 ± 32 | 219 ± 25 |
| Serum total IgE (IU/ml) | 717±96\*\* | 137 ± 69 | 835±120\*\* | 192 ± 64 | 757±111\*\* | 212 ± 66 | 740±113\*\* | 218 ± 66 | 869±112\*\* | 199 ± 61 | 590±95\*\* | 202 ± 76 |
| **Notes:** *P* < 0.05\*, *P* < 0.01\*\* vs allergen-specific IgE negative group. Specific IgE was judged as positive when the class was equal to or greater than 1 by View39. **Abbreviations:** DLco/VA, diffusing capacity of carbon monoxide/alveolar volume; FeNO, fraction of exhaled nitric oxide; FEV1, forced expiratory volume in 1 s; FVC, forced vital capacity; RV, residual volume; IgE, immunoglobulin E. |