Supplemental Materials

Moulds and Staphylococcus aureus enterotoxins are relevant allergens to affect type2-inflammation in CRS patients

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Table E1. The influence of interaction between moulds and SEs sensitization for clinical outcomes in CRS patients

|                   | F value | p value |
|-------------------|---------|---------|
| The prevalence of asthma | 6.39    | 0.01    |
| **Systemic biomarkers** |         |         |
| Blood eosinophils count, /µL | 0.20    | 0.66    |
| Serum total IgE, IU/mL | 1.71    | 0.20    |
| Serum periostin, ng/mL | 4.24    | 0.04    |
| **Upper airways biomarkers** |         |         |
| Sinus eosinophils, /HPF | 0.06    | 0.81    |
| Nasal polyp, presence | 7.50    | 0.006   |
| Nasal polyps, eosinophils, HPF† | 0.65    | 0.43    |
| Eosinophilic CRS, presence | 4.02    | 0.045   |
| Lund-Mackay scores, points | 2.27    | 0.14    |
| SNOT-22, points | 0.47    | 0.49    |
| Open essence scores, points | 0.98    | 0.32    |
| **Lower airways biomarkers** |         |         |
| AQLQ, points* | 0.81    | 0.38    |
| Sputum eosinophils, %† | 4.95    | 0.03    |
| periostin, ng/mL† | 0.60    | 0.44    |
| FeNO, ppb | 0.11    | 0.74    |

Eosinophilic CRS: defined when eosinophils in sinus or NP tissue show ≥70 HPF, *n = 20, †n = 45, AQLQ: Asthma Quality of Life Questionnaire, FeNO: Fractional nitric oxide (One patient without moulds/SEs sensitization could not measure FeNO because of apparatus failure
### Table E2. The impact of sensitization to moulds/SEs (≥0.35 UA/mL) on clinical outcomes

|                              | All participants (n = 84) | moulds/SEs+ (n = 11) | moulds/SEs- (n = 45) | Healthy subjects (n = 28) | p value* | p value** | p value** | p value** |
|------------------------------|---------------------------|----------------------|----------------------|---------------------------|----------|----------|----------|----------|
| **Systemic biomarkers**      |                           |                      |                      |                           |          |          |          |          |
| Blood eosinophils count, /µL†| 246 (143, 526)            | 419 (167, 653)       | 228 (135, 478)       | -                         | -        | 0.22     | -        | -        |
| Serum total IgE, IU/mL†      | 137 (26, 431)             | 569 (389, 1580)      | 116 (27, 212)        | 44 (11, 357)              | 0.0003   | 0.0005   | 0.002    | 0.67     |
| Serum periostin, ng/mL‡      | 86 (74, 108)              | 93 (78, 138)         | 84 (73, 116)         | 84 (74, 101)              | 0.45     | 0.75     | 0.42     | 0.73     |
| **Upper airways markers**   |                           |                      |                      |                           |          |          |          |          |
| Sinus eosinophils, /HPF‡      | 66 (20, 168)              | 82 (16, 335)         | 64 (20, 156)         | -                         | -        | 0.57     | -        | -        |
| Nasal polyps, presence (%)‡  | 38 (68)                   | 8 (73)               | 30 (67)              | -                         | -        | >0.99    | -        | -        |
| Lund-Mackay scores, points‡  | 12 (7, 16)                | 7 (64)               | 26 (58)              | -                         | -        | >0.99    | -        | -        |
| SNOT-22, points              | 15 (3, 35)                | 46 (29, 68)          | 23 (12, 36)          | 2 (0, 4)                  | <0.0001  | 0.052    | <0.0001  | <0.0001  |
| Open essence scores, points  | 7 (3, 9)                  | 4 (0, 9)             | 5 (0, 8)             | 9 (7, 10)                 | <0.0001  | 0.96     | 0.04     | <0.0001  |
| **Lower airways markers**   |                           |                      |                      |                           |          |          |          |          |
| AQLQ, points§                | 5.8 (5.5, 6.7)            | 6.2 (4.5, 6.8)       | 5.6 (5.5, 6.3)       | -                         | -        | 0.55     | -        | -        |
| Sputum eosinophils, %‡‡       | 0 (0.3, 2)                | 0.3 (0.3, 0.4)       | 0 (0.4)              | -                         | -        | 0.67     | 0.02     | 0.06     |
| Periostin, ng/mL‡‡            | 7.1 (1.5, 16.3)           | 19.3 (9.8, 39.0)     | 11.7 (3.7, 21.0)     | 1.6 (0.5, 3.4)            | <0.0001  | 0.24     | 0.0002   | 0.0001   |
| FeNO, ppb‡                   | 25.8 (17.7, 38.7)         | 39.4 (24.7, 57.4)    | 29.0 (21.6, 50.6)    | 20.6 (16.1, 26.2)         | 0.004    | 0.64     | 0.01     | 0.01     |

*Analysed by Kruskal-Wallis test, **Analysed by Steel-Dwass analysis, Wilcoxon rank sum test or Fischer's exact test, †n = 56, ‡n = 76 (CRS/H: 56/20 n= 54 (moulds/SEs+/-: 10/44), §n = 38(moulds/SEs+/-: 8/30), ¶n = 20 (moulds/SEs +/-: 7/13), ††n = 65 (moulds/SEs +/-: 8/37, H: 20), †‡n = 83. **n = 45. moulds: Alternaria and Aspergillus, SEs, Staphylococcus enterotoxins A and B, H: healthy subjects, Eosinophilic CRS: defined when
eosinophils in sinus or NP tissue show ≥70 HPF. AQLQ: Asthma Quality of Life Questionnaire, FeNO: Fractional nitric oxide (One patient without moulds/SEs sensitization could not measure FeNO because of apparatus failure)