**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** Alt/SEs+ *vs* Alt/SEs- | p value** Alt/SEs+ *vs* H | p value** Alt/SEs- *vs* H |
|---|---|---|---|---|---|---|---|---|
| **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 | - | - |
| , eosinophils, HPF§ | 85 (6, 145) | 135 (77, 291) | 77 (4, 126) | - | - | 0.03 | - | - |
| Eosinophilic CRS, presence (%)† | 33 (59) | 7 (64) | 26 (58) | - | - | >0.99 | - | - |
| Lund-Mackay scores, points† | 12 (7, 16) | 14 (7,16) | 11 (7, 17) | - | - | 0.80 | - | - |
| 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) | 2.3 (0.5, 35.2) | 0.3 (0, 7.0) | 0 (0, 0.4) | 0.02 | 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)