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**Early age exposure to moisture damage and systemic inflammation at the age of 6 years**

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**Supplementary Table 1: Study population and home characteristics (N=292\*)**

PASTURE (Protection against Allergy Study in Rural Environments), NA=the number of observations with missing values,  
BMI Body mass index. \*Study population: data on home inspections in early age and either available CRP or cytokine measurements at 6 years of age.

**Supplementary Table 2A:** Adjusted associations between early age exposure to moisture damage in the child’s main living areas and systemic inflammation markers (CRP and leucocytes) at the age of 6 years, additionally adjusted for current exposure to moisture damage.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **N** | n(%) of **CRP** ≥ 75th percentile | **aOR (95% CI)** | **N** | n(%) of **leucocytes** ≥ 75th percentile | **aOR (95% CI)** |
| **Moisture damage** |  |  |  |  |  |  |
| No damage | 137 | 37 (27%) | 1 | 139 | 34 (24%) | 1 |
| Minor | 54 | 13 (24%) | 0.67 (0.27-1.64) | 50 | 9 (18%) | 0.93 (0.37-2.39) |
| Major | 28 | 7 (25%) | 0.52 (0.16-1.68) | 26 | 10 (38%) | 2.59 (0.80-8.36) |

N number of observations, CRP C-reactive protein, aOR adjusted odds ratio, 95%CI 95% confidence interval

Models are adjusted for: gender, living on a farm, older siblings, maternal smoking during pregnancy, maternal allergy, body mass index, current exposure to moisture damage in child’s main living area, and study cohort.

**Supplementary Table 2B:** Adjusted associations between early age exposure to moisture damage in the child’s main living areas and the production of unstimulated and stimulated cytokines at the age of 6 years, additionally adjusted for current exposure to moisture damage.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unstimulated** | | | | | | | |
| **Moisture damage** | **N** | n(%) of **TNF-α** ≥ 75th perc | **aOR (95% CI)** | n(%) of **IL-1β**  ≥ 75th perc | **aOR (95% CI)** | n(%) of **IL-6** ≥ 75th perc | **aOR (95% CI)** |
| No damage | 137 | 37 (27%) | 1 | 36 (26%) | 1 | 40 (29%) | 1 |
| Minor | 49 | 13 (26%) | 0.72 (0.29-1.81) | 11 (22%) | 0.52 (0.23-1.54) | 10 (20%) | 0.48 (0.18-1.28) |
| Major | 26 | 5 (16%) | 0.44 (0.12-1.64) | 8 (31%) | 0.93 (0.29-3.02) | 6 (23%) | 0.39 (0.10-1.49) |
| **PI-stimulated** | | | | | | | |
| No damage | 139 | 36 (26%) | 1 | 39 (28%) | 1 | 39 (28%) | 1 |
| Minor | 50 | 14 (28%) | 0.94 (0.34-2.55) | 9 (18%) | 0.41 (0.15-1.16) | 12 (24%) | 0.58 (0.22-1.53) |
| Major | 26 | 6 (23%) | 0.81 (0.22-3.03) | 6 (23%) | 0.32 (0.08-1.28) | 5 (19%) | 0.35 (0.09-1.37) |
| **LPS-stimulated** | | | | | | | |
| No damage | 139 | 32 (23%) | 1 | 37 (27%) | 1 | 38 (27%) | 1 |
| Minor | 50 | 12 (24%) | 0.68 (0.26-1.74) | 9 (18%) | 0.57 (0.22-1.47) | 11 (22%) | 0.59 (0.23-1.55) |
| Major | 41 | 8 (20%) | 0.84 (0.26-2.70) | 7 (17%) | 0.85 (0.26-2.77) | 3 (7%) | 0.24 (0.05-1.07) |
| **PPG-stimulated** | | | | | | | |
| No damage | 139 | 38 (27%) | 1 | 35 (25%) | 1 | 37 (27%) | 1 |
| Minor | 49 | 13 (27%) | 0.82 (0.34-1.97) | 11 (22%) | 1.06 (0.43-2.59) | 14 (29%) | 1.36 (0.58-3.22) |
| Major | 25 | 6 (24%) | 0.74 (0.23-2.44) | 6 (24%) | 0.77 (0.22-2.66) | 3 (12%) | 0.44 (0.10-1.83) |

N number of observations, CRP C-reactive protein, aOR adjusted odds ratio, 95%CI 95% confidence interval, TNF-α tumor necrosis factor alpha, IL-1β Interleukin 1-beta, IL-6 Interleukin 6, PI phorbol 12-myristate 13-acetate and ionomycin stimulated, LPS lipopolysaccharide stimulated, PPG peptidoglycan stimulated. Models are adjusted for: gender, living on a farm, older siblings, maternal smoking during pregnancy, maternal allergy, body mass index, current exposure to moisture damage in child’s main living area, and study cohort.

**Supplementary Table 2C:** Adjusted associations between early age exposure to moisture damage in the child’s main living areas and combined levels of stimulated cytokines at the age of 6 years, additionally adjusted for current exposure to moisture damage.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Unstimulated** | |  |
|  | **N** | n(%) of cytokines ≥ 75th percentile | **aOR (95% CI)** | **N** |
| **Moisture damage** |  |  |  |  |
| No damage | 137 | 38 (28%) | 1 | 139 |
| Minor | 49 | 11 (22%) | 0.55 (0.21-1.43) | 50 |
| Major | 26 | 5 (19%) | 0.42 (0.11-1.59) | 26 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **PI-stimulated** | | **LPS-stimulated** | |  | **PPG-stimulated** | |
|  | **N** | n(%) of cytokines ≥ 75th percentile | **aOR (95% CI)** | n(%) of cytokines ≥ 75th percentile | **aOR (95% CI)\*** | **N** | n(%) of cytokines ≥ 75th percentile | **aOR (95% CI)\*** |
| **Moisture damage** |  |  |  |  |  |  |  |  |
| No damage | 139 | 39 (28%) | 1 | 34 (24%) | 1 | 139 | 39 (28%) | 1 |
| Minor | 50 | 12 (24%) | 0.48 (0.18-1.32) | 9 (18%) | **0.33 (0.11-0.99)** | 49 | 13 (27%) | 0.81 (0.32-2.02) |
| Major | 26 | 5 (19%) | 0.29 (0.07-1.17) | 6 (23%) | 0.39 (0.11-1.44) | 25 | 4 (16%) | 0.28 (0.07-1.17) |

N number of observations, CRP C-reactive protein, aOR adjusted odds ratio, 95%CI 95% confidence interval, TNF tumor necrosis factor, IL-1b Interleukin 1-beta, IL-6 Interleukin 6, PI phorbol 12-myristate 13-acetate and ionomycin stimulated, LPS lipopolysaccharide stimulated, PPG peptidoglycan stimulated. Combination variables for IL-1β, IL-6, and TNF-a were created by taking the ranks of the three cytokines without stimulant (unstimulated) and within each stimulates (PI, LPS and PPG). Models are adjusted for: gender, living on a farm, older siblings, maternal smoking during pregnancy, maternal allergy, body mass index, current exposure to moisture damage in child’s main living areas, and study cohort.