LETTERS TO THE EDITOR

Asthma in reaction to two occupational agents in the same workplace

Workers can be simultaneously exposed to several agents that can cause occupational asthma (OA). The frequency of exposure to sensitisers at the workplace is high: more than 50% of workers reported being or having been exposed to such agents. In the presence of OA, it is important to avoid further exposure to the causal agent to prevent worsening of asthma. This justifies identification of the causal agent by exposing subjects to specific inhalation challenges. We describe five subjects, all working at food production companies, with a diagnosis of OA exposed to two different agents present in their workplace.

The methods used in the investigation are described in the online supplement. The characteristics of the subjects are shown in table 1. There were three men and two women, aged 24–46 years, all exposed for more than 1 year, with the duration of asthmatic symptoms (wheezing in all subjects) ranging from 1 to 7 years, all with symptoms of rhinoconjunctivitis. The five subjects were on the production line and were exposed to various occupational agents present as dry aerosols (flour, enzymes, natural products, etc.). All subjects were atopic. Skin-prick tests performed with dilutions of the causal agents were positive (10 subjects in 9 had three or more positive reactions).

Table 1 Characteristics of subjects and reactions

<table>
<thead>
<tr>
<th>Subject no.</th>
<th>Duration of exposure (years)</th>
<th>Duration of symptoms (years)*</th>
<th>Atopic status (years)*</th>
<th>Specific prick tests</th>
<th>FEV&lt;sub&gt;1&lt;/sub&gt; (% pred)</th>
<th>PC20 (mg/ml)</th>
<th>Specific reactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.4</td>
<td>1</td>
<td>+</td>
<td>+Lactoserum (10 mg/ml)</td>
<td>87</td>
<td>1.3</td>
<td>Immediate (10 min; 28%) lactoserum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Casein (1 mg/ml)</td>
<td></td>
<td></td>
<td>Late (240 min; 33%) casein†</td>
</tr>
<tr>
<td>2</td>
<td>26</td>
<td>2.5</td>
<td>+</td>
<td>ND lactoserum</td>
<td>77</td>
<td>0.8</td>
<td>Immediate (10 min; 29%) lactoserum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wheat flour</td>
<td></td>
<td></td>
<td>Immediate (10 min; 23%) wheat flour</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>1</td>
<td>+</td>
<td>+Camomile (10 mg/ml)</td>
<td>85</td>
<td>7</td>
<td>Immediate (10 min; 24%) camomile†</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ginger (10 mg/ml)</td>
<td></td>
<td></td>
<td>Immediate (20 min; 32%) ginger</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>7</td>
<td>+</td>
<td>+Guar gum (10 mg/ml)</td>
<td>118</td>
<td>4</td>
<td>Immediate (20 min; 23%) guar gum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wheat flour</td>
<td></td>
<td></td>
<td>Immediate (10 min; 20%) wheat flour</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
<td>1</td>
<td>+</td>
<td>–Lactoserum (10 mg/ml)</td>
<td>84</td>
<td>1.6</td>
<td>Immediate (10 min; 20%) lactoserum</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wheat flour</td>
<td></td>
<td></td>
<td>Immediate (10 min; 22%) wheat flour</td>
</tr>
</tbody>
</table>

*Atopic status: + if one or more positive prick test reactions to a battery of 15 common aeroallergens; the wheat flour extract used was a commercial preparation at a dilution of 1:10 (Omega, Montreal, Canada).
†Immediate fall in FEV<sub>1</sub> of 13% followed by the late reaction.
‡Immediate reaction followed by a late fall in FEV<sub>1</sub> of 16%, FEV<sub>1</sub>, forced expiratory volume in one second; ND, not done; PC20, concentration of methacholine causing a fall of 20% in FEV<sub>1</sub>.

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REFERENCES

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