Allergy to pizza: an uncommon and multifaceted allergy

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Abstract. – The involvement of the Italian “pizza” in the wide and variegate field of food allergy is certainly uncommon. This simple Italian dish consists of a breadlike crust covered by a spiced preparation of cheese and tomatoes and baked. Italian pizza found its origin in Napoli and only in recent years has become a very popular food in the rest of Italy and elsewhere. In the beginning, it was the food of the poor, but was made with natural foods, but nowadays has been enriched by a number of ingredients and flavourings, thus multiplying the risk of allergic reactions.

Key Words: Pizza, Cow milk, Anchovy, Cheese, Parsley, Soy, Allergic reactions, Anaphylaxis.

Comment

Italian “pizza” is presently also a generic name that can mean everything and nothing: the Neapolitan one ignores for example the mushrooms, that may be popular in Genova, and includes anchovies, tomato and tomato sauce, cheese, flour, yeast, as well as several other ingredients. A recent report has described the case of a 32-year-old woman reporting more than 10 acute systemic reactions in the last 2 years, including generalized urticaria, facial angioedema, laryngeal edema, and anaphylaxis. These reactions were apparently due to the soybean flour contained in pizza. However I do not understand why the authors have not taken in any consideration the “cheese”, normally cut slices of “mozzarella”, which is typically made of cow’s milk (CM). CM is so a potent allergens to trigger allergic reactions in 24.9% of children, including anaphylaxis (10% of cases) urticaria-angioedema (18%), bronchospasm (21%), rhinitis (20%), colics (27%), vomiting (48%), and diarrhea (53%). Anaphylaxis also occurs when two drops are put on the lower lip of infants at risk of atopy during an open food challenge (OFC). It is therefore my suggestion that it is more probable that the reactions reported in a young lady were due to CM.

There is also “fish” and generally are found the anchovies: however, in a group of atopic and nonatopic fish-tolerant controls, 20/26 (77%) reacted by skin prick tests (SPT) to one or more fish extracts tested; the most prevalent positive reaction was to anchovy (73%).

A nother intriguing issue is the high CAP result for parsley (8.65), which can be added to some pizza versions; I do not know whether this also happens elsewhere. Parsley has provoked anaphylaxis, angioedema and urticaria, and crossreacts with celery, an important allergen.

Soy is not a potent allergen as CM: I have meta-analyzed 17 different studies concluding that in SPT-RAST-OFC/double-blind food challenge (DBFC)-based epidemiological studies soy allergy attains an incidence of 3%, and in OFC-DBPCFC (double-blind placebo-controlled food challenge) studies of 3.5%, as it is evident from Table 1. These data are reinforced by a recent DBPCFC study in 92 children aged 1.5 years (mean) with gastrointestinal allergy to CM: no child resulted positive to soy. In conclusion, soy has provoked a clinical case of anaphylaxis every 22.3 years.
Table I. Results of studies employing challenge tests to soy.

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Ref</th>
<th>No. of subjects</th>
<th>Age (years)</th>
<th>Challenge type</th>
<th>Reactions (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampson et al</td>
<td>7</td>
<td>204</td>
<td>5.2 (M)</td>
<td>DBPCFC</td>
<td>5</td>
</tr>
<tr>
<td>Bock et al</td>
<td>8</td>
<td>313</td>
<td>&lt;3-19</td>
<td>DBPCFC</td>
<td>5.4</td>
</tr>
<tr>
<td>Bock et al</td>
<td>9</td>
<td>710</td>
<td>NS</td>
<td>DBPCFC</td>
<td>6</td>
</tr>
<tr>
<td>Giampiero et al</td>
<td>10</td>
<td>317</td>
<td>0.4 (M)</td>
<td>OFC</td>
<td>2.5</td>
</tr>
<tr>
<td>Kivity et al</td>
<td>11</td>
<td>52</td>
<td>18 (M)</td>
<td>DBFC</td>
<td>0</td>
</tr>
<tr>
<td>Magnolfi</td>
<td>12</td>
<td>900</td>
<td>0.1-18</td>
<td>DBPCFC</td>
<td>6.1</td>
</tr>
<tr>
<td>Eigenmann et al</td>
<td>13</td>
<td>63</td>
<td>2.3 (M)</td>
<td>DBPCFC, OFC</td>
<td>0</td>
</tr>
<tr>
<td>Burks et al</td>
<td>14</td>
<td>98</td>
<td>0.3-21.9</td>
<td>DBPCFC</td>
<td>3.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2657</td>
<td></td>
<td></td>
<td>Mean = 3.5</td>
</tr>
</tbody>
</table>

Abbreviations: M = median, NS = Not specified.

References


