Urticaria / Hives – Is it an allergy??

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### Allergy Dictionary

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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</table>
| **Atopy**     | Tendency to produce IgE to allergens  
|               | eg: asthma / eczema / rhinitis                                              |
| **Allergy**   | Disease following immune response to something that should be harmless  
|               | May be IgE mediated                                                         |
| **Anaphylaxis** | Potentially life threatening allergic reaction  
|                | Mediated by IgE receptor mast cells                                         |
“Hives or Urticaria”
Hives / Urticaria

- Very common condition
- 20% of people develop it during their lives
- Urticaria is Latin for nettle rash
- anywhere - trunk and limbs
- May or may not be associated swelling
- Due to plasma leakage from blood vessels in skin due to histamine working on the blood vessels
- Different causes: Food, drugs, viral, latex, idiopathic/spontaneous
- “Acute” or “chronic” lasting more than 6 weeks
“Swellings or Angioedema”
Angioedema

- Due to plasma leakage deep skin and fat tissues
- Can get on own or with urticaria (causes same as urticaria)
- Again can get due to histamine working on blood vessels
- Same causes as urticaria
- Also when on own may be some other causes and sometime due to bradykinin
Urticaria and angioedema

• Is it always due to an allergy?
• Urticaria occurs due to mast cell activation
• Resting and activated states
• Activated releases histamine which can cause rash, swellings, wheeze, anaphylaxis
What triggers the mast cell?

- ALLERGIES eg: grass, peanut, bees, latex
- BUGS - Viruses and bacteria
- PHYSICAL factors eg: heat, cold, pressure
- IMMUNE SYSTEM
- STRESS
2 Cases of Urticaria from adult allergy clinic

• One has “allergy”  • One doesn’t

- Different histories
- Different tests
- Different treatments
Getting it right!

• Avoid what you need to
• Don’t avoid what you don’t need to
• Looking at triggers
• Getting the right treatment
Case 1:

- 19 year old man
- Episode 1:
  - Aged 4 years old ate some crunchy nut cornflakes
  - 10 minutes later developed lip swelling followed by hives all over
  - Settled over 1 hour
  - Parent thought allergic to nuts but didn’t get treatment / referral
History continued

• *Episode 2:*

• Aged 9 years ate a chocolate, had hazelnut in, itchy burning mouth, spat it out, lip swelled, no other symptoms. Settled in 30 minutes.
History continued

- **Episode 3:**
- Aged 19 years old. Went for curry friends.
- Ate half curry felt mouth tingling, lip swelling, felt hot all over, then widespread urticaria, felt dizzy and wheeze
- Treated accident emergency dpt
- Settled over 3 hours
- Referred allergy clinic
Other History

• Runny itchy nose and eyes May – July
• Otherwise well

• Brother has asthma
• Mum has eczema
Investigations: Skin testing
Skin prick tests

- Commercially standardised liquid extracts pricked into skin
- Allergen eg: peanut reacts with IgE antibodies on skin mast cells ➔ wheal and flare
- 15% people with a positive test don’t have a clinical reaction
Skin testing 19 year old patient

<table>
<thead>
<tr>
<th></th>
<th>0 mm</th>
<th>Brazilnut</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Negative</strong></td>
<td>0</td>
<td>Brazilnut</td>
<td>5</td>
</tr>
<tr>
<td><strong>Grass</strong></td>
<td>9</td>
<td>Cashew</td>
<td>1</td>
</tr>
<tr>
<td><strong>Trees</strong></td>
<td>5</td>
<td>hazelnut</td>
<td>6</td>
</tr>
<tr>
<td><strong>Peanut</strong></td>
<td>10</td>
<td>Positive</td>
<td>4</td>
</tr>
</tbody>
</table>
Investigations – may have blood test

- IgE antibodies in patients blood binds to allergen eg: peanut on test cap
- If binds series reactions gives fluorescence readout → numerical value / grade
Pointers to allergy

• Symptoms start soon after eating it
• Symptoms happen each time eat it
• Symptoms settle down in 12 hours
• Personal history of atopy / allergies in the family
Managing allergy

<table>
<thead>
<tr>
<th>Avoid the allergen</th>
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</thead>
<tbody>
<tr>
<td>Anti-histamines mild episodes</td>
</tr>
<tr>
<td>Adrenaline autoinjector training and device</td>
</tr>
<tr>
<td>Medic alert</td>
</tr>
<tr>
<td>Patient information</td>
</tr>
</tbody>
</table>
Case 2

- 28 year women
- Widespread urticaria over last 4 months
- Urticaria moving around the body with episodes lasting 4-7 days, then break of few days, then starts up again
- Very itchy, interfering quality of life
- Sometimes becomes blotchy with hot shower
- Sometimes swellings of lips, eyes and wrist
- No dizziness, wheeze
History

• Normally well
• Not changed diet, eaten anything different
• One episode started after a chicken sandwich but eaten before, one episode started after a banana but eaten since, sometimes wakes up with rash
Pointers to Spontaneous Urticaria (Non-allergic)

- May occur without eating eg: when wake up
- May last for days at a time
- Doesn’t consistently occur with same foods
- May think suddenly developed numerous allergies and be restricting diet
- May be triggers such as temperature, stress, sore throat, physical pressure
Spontaneous urticaria

• Mast cell activated by other mechanisms rather than allergen binding IgE on mast cells
Tests for Spontaneous Urticaria

- Skin tests may not be needed or helpful
- Allergy blood tests may not be needed
- Some routine blood tests may be helpful such as blood count and thyroid
- If only swellings blood test for C1 inhibitor
Managing spontaneous urticaria

<table>
<thead>
<tr>
<th>Avoidance foods generally not required</th>
</tr>
</thead>
<tbody>
<tr>
<td>If intermittent urticaria used anti-histamine when rash</td>
</tr>
<tr>
<td>If frequent urticaria then daily anti-histamine</td>
</tr>
<tr>
<td>If still rash higher dose anti-histamines</td>
</tr>
<tr>
<td>If still rash montelukast</td>
</tr>
<tr>
<td>Tranexamic acid may help angioedema</td>
</tr>
<tr>
<td>A few severe cases need further treatment such as ciclosporin or omalizumab injections</td>
</tr>
</tbody>
</table>
## Differences

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<tr>
<th></th>
<th><strong>ALLERGY</strong></th>
<th><strong>NON-ALLERGIC / SPONTANEOUS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food</strong></td>
<td>Specific food, each time eats food</td>
<td>Not specific food</td>
</tr>
<tr>
<td><strong>Triggers</strong></td>
<td>Starts soon after food, settles in hours</td>
<td>Temperature, viral infection, stress, exercise</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td></td>
<td>May last days</td>
</tr>
<tr>
<td><strong>urticaria</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Swellings</strong></td>
<td>Lips, face</td>
<td>Lips, face, arms, legs, genitals</td>
</tr>
<tr>
<td><strong>Other symptoms</strong></td>
<td>May have vomiting</td>
<td>Anaphylaxis rare</td>
</tr>
<tr>
<td><strong>Skin / allergy blood tests</strong></td>
<td><a href="#">Yes</a></td>
<td>May not be needed</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Avoid specific food</td>
<td>Eat mixed diet</td>
</tr>
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