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Saturday, August 12, 2017
12:15 - 12:30 Allergy Testing and Desensitisation - All You Need to Know
Update on allergy testing and Immunotherapy

Jessica Tattersall
Objectives

• Identifying the patient with airway allergy
• Investigations
• Treatment
Why the sneezy - wheezy patient?

- NZ has the amongst highest prevalence of allergic disease world wide.
- Rate of AR has doubled in the last 10 years (now nearly 1 in 4 people)
- 80% of asthmatics have AR, 40 - 60 % of AR patients have asthma (clinical / sub- clinical)
- It can be dangerous (Melb Nov 21st 2016 – epic thunderstorm asthma event)
- LARGE impact on quality of life, productivity
  - majority of sufferers in peak school / work stages of life (15 – 64)
Impact of allergic rhinitis symptoms on quality of life (QOL)

- Moderate-to-severe allergic rhinitis symptoms are associated with a notable impact upon patients’ daily lives including:
  - Impaired learning ability and effects on exam performance\(^1,^2\)
  - Negative impact on work/school performance\(^3\)
  - Tiredness and fatigue\(^4\)
  - Sleep problems\(^5\)
    - Trouble falling asleep
    - Awakening during the night


Q11. What was the medical specialty of the doctor who FIRST diagnosed (you/him/her) with nasal allergies?
Q35. What is the medical specialty of the doctor that (you see/your child sees) most often for (your/his/her) nasal allergies? N = 203
Is this allergic disease – presenting symptoms

- Blocked or congested nose
- Cyclical congestion
- Rhinorrhea
- Blocked ears
- Itchy (nose, palate, throat)
- Ocular symptoms
- Sleep disordered breathing (kids)
- Co-existent asthma
Is this allergic disease - history

• Identify a pattern / trigger
• Aero – allergens
  • Dust mite
    • Perennial, indoor, triggers are vacuuming, sweeping, cleaning
    • AM sneezing, puffy eyes, runny nose – then blocked at night
    • “always sick”
  • Animal dander (Dog, Cat, horse)
    • Perennial, indoor
  • Pollen (grass, weeds, tree)
    • Seasonal, outdoor,
  • Mould (indoor, outdoor)
• Non – allergic triggers (cig smoke, fumes, A/C, wind changes, perfumes, temperature)
Is this allergy - associated features

- Large bulky pale inferior turbs, middle turbinate head oedema, sticky / stringy mucus cobblestoned mucosa
- Ocular symptoms (itchy, watery eyes)
- Many think they are “sinus” patients
  - Frequent acute episodes of facial pain, discharge, “fullness”
  - CT – often NAD
- Loss of smell and taste often not a major presenting feature of AR
- Other atopic (IgE mediated) history (asthma, eczema, food allergy)
**Classifying AR**

<table>
<thead>
<tr>
<th>Intermittent</th>
<th>Persistent</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ≤ 4 days per week</td>
<td>• &gt; 4 days per week</td>
</tr>
<tr>
<td>• or ≤ 4 weeks</td>
<td>• and &gt; 4 weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate-severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>• normal sleep</td>
<td>• abnormal sleep</td>
</tr>
<tr>
<td>• no impairment of daily activities,</td>
<td>• impairment of daily activities,</td>
</tr>
<tr>
<td>sport, leisure</td>
<td>sport, leisure</td>
</tr>
<tr>
<td>• normal work and school</td>
<td>• impairment of work and</td>
</tr>
<tr>
<td>• no troublesome symptoms</td>
<td>school activities</td>
</tr>
<tr>
<td></td>
<td>• troublesome symptoms</td>
</tr>
</tbody>
</table>

*Figure 2. Classification of allergic rhinitis according to ARIA\(^{(1)}\).*
<table>
<thead>
<tr>
<th>Good control</th>
<th>Partial control</th>
<th>Poor control</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of:</td>
<td>One or two of:</td>
<td>Three or more of:</td>
</tr>
<tr>
<td>- Daytime symptoms $\leq$ 2 days per week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Need for reliever $\leq$ 2 days per week$^\dagger$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- No limitation of activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- No symptoms during night or on waking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Daytime symptoms $&gt; 2$ days per week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Need for reliever $&gt; 2$ days per week$^\dagger$</td>
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$^\dagger$ Not including SABA taken prophylactically before exercise. (Record this separately and take into account when assessing management.)
Indication of Allergen Immunotherapy in Allergic Rhinitis

- **Mild intermittent**
  - Intra-nasal steroid
  - Local cromone
- **Moderate severe intermittent**
  - Oral or local non-sedative H1-blocker
  - Intra-nasal decongestant (<10 days) or oral decongestant
  - Allergen and irritant avoidance
- **Mild persistent**
- **Moderate severe persistent**

A.R.I.A. Position Paper 2001
Investigate

• SPT (skin prick testing)
  • Gold standard for IgE mediated reactions
  • Sensitive and specific
  • Results in 15 mins
  • Need to be off antihistamines
  • BUT – hard to access !!

• Specific IgE testing (EAST)
  • Less sensitive and specific – BUT still very reliable if history
    and test results correlate
  • Results delayed

• Either ONLY valuable in IgE mediated reactions
  • IgE – asthma, eczema, AR, anaphylaxis
Investigations continued

• AR, asthma – inhaled allergens (not food!!!!)
  • Exception sulfite sensitivity (not IgE mediated) preservatives 220-228
• Inhalant allergens (dust mite, pet dander, pollen, mould)
• SPT or EAST testing NOT indicated for non–allergic triggers (cig smoke, fumes, flowers, perfumes) respiratory irritants
• NOT indicated for intolerances (IBS), non-specific rash, headaches, fatigue, food additives
• Order only relevant tests !!!! False positives will only confuse you and patient
SPT – what we do …..
Interpretation of results

• Sensitization does not = allergy (!!!)
• Do the test results confirm the history and exam findings?
• Beware the multi sensitized patient
  • What is driving their symptoms
• Sometimes only need to address what is driving the symptoms
Treatment Options

- Avoidance (Pets, Mould)
  - Not easy in HDM, Pollen
- Reduction – avoid going outdoors, windows closed, dust mite reduction measures
- Maximize medical therapy (INGC)
- Surgery
  - Septo - turbs, ESS
- Consider allergen specific immunotherapy
  - Adjuvant therapy with surgery
Maximize medical therapy

• Preventative therapy
• Reliever
• Rescue
Why undergo immunotherapy

• Improve symptoms – only known disease modification therapy for allergic rhinitis and asthma
• Reduce symptoms and the need for allergy medications
• Reduces acquisition of new allergic sensitivities
• A role in prevention of asthma

Management of allergic rhinitis and its impact on asthma ARIA guidelines 2010
Allergy immunotherapy for allergic rhinitis effectively prevents asthma: results from large retrospective cohort American Academy Asthma, Allergy, Immunology 2015
GINA guidelines -2017
ASK?

- Does their condition respond to immunotherapy??
  - Allergic rhinoconjunctivitis, allergic asthma
  - Evidence not as strong for eczema (HDM)
- Are the test results clinically relevant
  - IgE to HDM (SPT or RAST)
  - Perennial, indoor etc
- What was the response to medical therapy
  - Anti-histamines, INCG etc.
Prescribing SLIT

- Generally aim to treat driving force of patients allergy (history) aim for single antigen if possible
  - Convenience = compliance

- Can mix allergens with caution

- Can get cross reactivity / cross cover in antigens with similar protein structures
  - Rye grass SLIT will cover Johnson, Orchard, other temperate grasses)
Commencing SLIT

• Evaluate asthma prior to commencement – Spirometry
  • Contraindicated in uncontrolled asthma (FEV<70%)
• Initiate first dose in rooms
  • Very very low anaphylaxis risk
  • Risks include asthma attack, sublingual / airway swelling
  • Observe in waiting room 30 mins
• Make sure they have a plan for treating local side effects
  • Mucosal itch, swelling
  • Flare of rhinitis, asthma
Options for SLIT
Contraindications to commencing SLIT

- Asthma not well controlled (FEV <70%)
- Pregnancy (commencement - not continuing therapy)
- B-blocker (can’t treat severe reactions)
- Chronic oral disease
Manage side effects

“but it has made me worse!”

- Increase antihistamine (bd, tds)
- Add extra asthma medication (steroids if needed)
- Explain nature of SE (short lived) generally 4 weeks max
- Phone allergist for guidance
- Support and follow up VERY important for compliance
Questions?