Nothing to sneeze at – allergic rhinitis and the impact on asthma

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JACK

- 11yo boy with a long history of asthma
- First developed at 3 years of age
- Only been a problem during winter in previous years
- Now having lots of problems with sneezing and coughing in the mornings
Jack

- Initially Jack would get wheezy in winter months usually associated with URTI or when playing in evening when cold air. He has only ever used Salbutamol as needed. He does not use a spacer. He required one 3 day course of prednisone last winter.
- For the last 6 months he has been getting short of breath when playing footy or soccer and will have to stop to catch his breath.
- He is coughing every morning and wakes a couple of times a week at night.
Does Jack need a preventer?

A. Yes
B. No
C. Needs further assessment
Does Jack need a preventer?

A. Yes
B. No
C. Needs further assessment
Is there any other pathology that may be playing a role?

A. Pneumonia
B. Allergic rhinitis
C. Whooping cough
D. Cystic fibrosis
Is there any other pathology that may be playing a role?

- Pneumonia
- Allergic rhinitis
- Whooping cough
- Cystic fibrosis
Allergic rhinitis

- Ignored
- Underdiagnosed
- Misdiagnosed
- Mistreated
Impact of allergic rhinitis

- Commonest chronic disease in childhood
- Marked morbidity
- Affects QOL
  - Work
  - School
    - Absenteeism
    - “Presenteeism”
Untreated allergic rhinitis and school performance problems

• Associated to rhinitis itself/nasal insufficiency
  – Sleep disturbances and daytime sleepiness
    – secondary to nasal blockade and nocturnal microawakenings
    – due to allergic inflammation
  – Absenteeism
  – “Presenteeism” (inattention, distraction, lack of concentration)
  – Irritability, restlessness
  – Mood disorders (anxiety, depression)
  – Secondary social/family readjustments

• Associated to nocturnal hypopnea and snoring
  – Without intermittent hypoxemia: low performance in mathematics, sciences
  – With intermittent hypoxemia: low performance in mathematics, sciences, and reading and writing

• Associated to secondary eustachian tube inflammation:
  – Hearing defects
  – Low performance in mathematics and reading and writing in early childhood (under 4 years of age)
## Symptoms of allergic rhinitis

<table>
<thead>
<tr>
<th></th>
<th>Sneezers and runners</th>
<th>Blockers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sneeze</td>
<td>Especially paroxysmal</td>
<td>Little or none</td>
</tr>
<tr>
<td>Rhinorrhoea</td>
<td>Watery</td>
<td>Thick mucus</td>
</tr>
<tr>
<td></td>
<td>(anterior and posterior)</td>
<td>(more posterior)</td>
</tr>
<tr>
<td>Itching</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nasal blockage</td>
<td>Variable</td>
<td>Often severe</td>
</tr>
<tr>
<td>Diurnal rhythm</td>
<td>Worse during day</td>
<td>Constant day &amp; night</td>
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<td></td>
<td>Improves at night</td>
<td>May be worse at night</td>
</tr>
<tr>
<td>Conunctivitis</td>
<td>Often present</td>
<td>Not usual</td>
</tr>
</tbody>
</table>

Key signs of allergic rhinitis

- Allergic salute: transverse nasal crease
- Swollen mucosa inside the nose
- Dark circles around the eyes
- Mouth breathers, may have overbite
- Subtle signs
Nasal itch
Allergic Salute
Allergic Shiners and Pleats
Malocclusion

Main influence of alteration of the breathing pattern from nasal to mouth occurs on the vertical plane

When seeing a patient like this I would examine the nose

A. Never
B. Occasionally
C. Usually
D. Always
When seeing a patient like this I would examine the nose

A. Never
B. Occasionally
C. Usually
D. Always
Pale Swollen Turbinates
Jack

- Jack has a bit of runny nose and is often observed to be rubbing it. He snores and is a restless sleeper. He wakes a couple of times at night.
- He sneezes a lot in the mornings and at other times will have sneezing fits
- He is often irritable and his teacher says that he is having difficulty concentrating at school
His mother asks could milk be the cause of his nasal symptoms?

- What do you think might be implicated in his AR?
Common aeroallergens
Dermatophagoides pteronyssinus
How will you manage his AR?

- **Investigations**
  - SPT
  - RAST

- **Avoidance strategies**
  - Bedding
  - Toys
  - Carpets
  - Pets
Treatment of allergic rhinitis

- Pharmacotherapy
  - Nasal corticosteroids
  - Antihistamines
  - Immunotherapy
  - Other

- Education
Is there any relationship between asthma and AR?

A. Yes
B. No
Is there any relationship between asthma and AR?

A. Yes
B. No
ARIA

The link between Asthma and Allergic Rhinitis
ARIA – United airway disease

- Asthma and allergic rhinitis frequently coexist

- **Asthma**
  - 3-5% of general population
  - 20-40% of people with a history of AR

- Up to 80% of people with asthma have nasal allergy symptoms versus 20% in the general population

- Treatment of one condition can improve control of the other
Implications for management

- Treatment of rhinitis can reduce asthma symptoms
- Intranasal corticosteroids reduce need for asthma-related hospitalisation
  - Risk of asthma related event (DEM presentation or admission) half in those treated for AR compared with those untreated
    American cohort study (Crystal-Pearce et al, JACI 2002; 109:57-62)
Think about AR in patients with asthma

- Examine the nose and recognise signs of rhinitis
- Ask about specific symptoms
- Routinely ask about symptom control
- Provide advice about minimising known rhinitis triggers