Allergic Rhinitis, Asthma & Dust Mite Allergy: Suspecting, Subduing & Solving

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Take Home Messages

1. Dust mite allergy is an important cause of chronic allergic rhinitis and asthma - with persistent unrecognised associated morbidity

2. Allergen Avoidance, Nasal Steroids and Immunotherapy are all under-utilised.

3. GP’s are key! Patients rely on you to consider the diagnosis and assist by educating, managing and referring appropriately. Suspect, Subdue, Solve.

Myths & Misconceptions: No Treatment is necessary(!)

- Persistent Allergic Rhinitis and (mild) asthma is seen as a minor complaint
  - Not recognising to subacute effects on sleep, cognition, and effects on other allergic disease
  - Not aware of substantial disease modifying treatments available

What is Allergic Rhinitis?

- “Inflammation of the lining of the nose”
- Allergic process: Stimulus —> Reaction
- Ambient Allergens
- Commonly called “hay fever”

Causes of Allergic Rhinitis

- Exposure to allergen in those with sensitised immune system.
- Main Allergen causes:
  - House Dust Mite - usually persistent
  - Grass Pollen - usually seasonal
  - Animal Epithelia (cats, dogs & horses) - usually episodic

Who get’s Allergic Rhinitis?

- Worldwide epidemic - 500mil & rising
- 25% of Europeans
- 30% of Americans
- 1 in 7 Australians in 2007-08

**Allergic Disease over ages**

- Eczema
- Asthma
- Food allergy
- Rhinitis

**Age Distribution Allergic Rhinitis**

- Allergic rhinitis sufferers per 10 population
- Males
- Females

**Focus on Dust Mites**

- Usually Persistent (but can fluctuate) during the year.
- Chronicity —> Unrecognised/accepted by patients
- Association with persistent allergic asthma

**Asthma & Allergic Rhinitis are linked**

- Up to 80% asthmatic patients have co-existent allergic rhinitis
- Up to 40% of allergic rhinitis patients have asthma
- United airways hypothesis
  - Same disease, different place?
  - Contiguous organ
  - Same cells / mediators
  - Same medications

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**Allergic Rhinitis as Risk Factor for Asthma (1)**

- % of patients who developed asthma
- no allergic rhinitis at baseline (n=528)
- Allergic rhinitis at baseline (n=168)

23-year follow-up of College freshman (n=738, average age 40)

**Allergic Rhinitis as Risk Factor for Asthma (2)**

- Incidence of asthma over an 8 year period

**Impact of Allergic Rhinitis**

Allergic Rhinitis impairs patients' QoL

- Ability to do day-to-day activities
- Work Productivity
- Classroom Productivity
- Any work time missed
- Any class time missed


**What does Allergic Rhinitis look like?**

**Classical Symptoms**

- Rhinorrhea/runny nose
- Sneezing
- Nasal congestion
  - typically alternating with nasal cycle
  - (if not, anatomical issue, polyp, etc)

**Unrecognised Symptoms**

- Snoring/disturbed sleep
- Mental clouding (inflammatory mediators)
- Tiredness (due to above)

**Classification (ARIA)**

- **Intermittent**
  - < 4 days/week
  - or < 4 weeks

- **Persistent**
  - > 4 days/week
  - and > 4 weeks

**Mild**

- Normal sleep
- no impairment of daily activities, sports, leisure
- normal school and work
- no troublesome symptoms

**Moderate/Severe**

- One or more of:
  - abnormal sleep
  - impairment of daily activities, sports, leisure
  - abnormal school and work
  - troublesome symptoms

**Management of allergic rhinitis**

Stepwise and additive approach:

- **Allergen Avoidance**
  - "Ideal"
  - Underused
  - Complicated for ambient allergens

- **Antihistamine**
- **Intranasal Corticosteroid (INCS)**
- **Specific Allergen Immunotherapy**
Removing Carpets and Soft Furnishings

- Reducing/Removing carpets and other soft furnishings IS EFFECTIVE
  - But can be expensive and/or impractical
  - Not often feasible for many people
  - May not be enough/temporising measure for some


Misconception: Environmental Changes Don’t Work (or do they?)

- Special Dust Mite Covers - possibly effective (in children)
  - do reduce measurable dust (as do normal covers)
  - no significant change in symptoms*
  - comfort complaints, and costly

* one study showed a 1 year, 50% (active) reduction in steroid use in asthmatic children


Mountain Air

- IS EFFECTIVE
  - Much lower Dust mite levels
  - Temperature (low) & Humidity (Low)
  - Much improved Asthma and Rhinitis Symptoms
  - (Hence Alpine sanatoriums)


Antihistamines

- Very effective for mild symptoms
- Particularly good for intermittent
- Prophylactic on demand
- Non-drowsy * "modern" 2nd gen antihistamines preferred

**INCS**  
Intranasal corticosteroids

- Mainstay of Treatment
- “Nose preventer”
- Under-utilised
- Effective for Allergic Rhinitis and Asthma
- Needs pep-talk and education from GP!
  - (takes > week)
  - Technique

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**Immunotherapy**

- Specific Allergen
- Immunotherapy/desensitisation
- Restores Tolerance → induces durable improvement in symptoms and reduction in medication use
- Under-utilised

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**Long History of Immunotherapy Use**

- Over 100 years
- Both AR and AA
- Improving evidence base - especially as new immunotherapy types come on to market
- Closest thing to a cure

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**Why is immunotherapy under-utilised?**

- Mainly lack of awareness
- Previously very specialised diagnostics
- Minimal allergy teaching and exposure in medical school
- Not-reimbursed by PBS
New options in Dust Mite Immunotherapy

- Injectable preparations
  - Short and “0 Day” up-dosing schedules
  - Monthly injections with GP
- Tablet preparations
  - Sublingually dissolving tablets
  - Daily dose under tongue at home

Time to benefit

- in double blind placebo controlled trials
  - statistically significant benefit after 3 months

Also demonstrable

Asthma control

Risk of a first moderate or severe asthma exacerbation


Suspect

House dust mite allergy

- Persistent Allergic Rhinitis symptoms
- Persistent Asthma
- Persistent nasal congestion/loss of smell

Subdue

House dust mite allergy

- Educate and Encourage Allergen Avoidance
- Recommend - enthuse regular "Nose Preventers" (and technique!)
- Help understand time course & effects of therapy
- May be all that is needed to effectively “fix” mild - moderate cases and significantly improve asthma

Solve

House dust mite allergy

- Consider immunotherapy in all patients with persistent symptoms
- Consider referral for specialist review - especially for severe and in setting of incompletely controlled asthma [NB: asthma must be controlled before commencement]
- Co-manage ongoing immunotherapy treatment with specialist and monitor improvements over time.
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