A Purr...fect Approach!

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Ann, 16, began to experience rhinoconjunctivitis in the spring and fall when she was 12. Over-the-counter (OTC) antihistamines were initially sufficient to control her symptoms. However, this past year her symptoms persisted throughout the winter months and OTC antihistamines are now giving her only partial relief. In addition, she has had two episodes of bronchitis throughout the winter months, each case lasting four to six weeks.

Over the last month, her cough has returned in the morning and at night, even in the absence of demonstrable upper respiratory viral infection (URI). She has noticed shortness of breath on exertion with reduced exercise tolerance and is experiencing chest tightness with cold air exposure.

The family acquired a cat nine months ago. If Ann touches the cat and rubs her eye, her eye gets red and itchy.

Past medical history is remarkable only for some eczema during infancy and, apart from antihistamines, she is on no regular medications.

The results of her physical exam are listed in Table 1.

Table 1

Ann's physical exam results

- Conjunctivae erythematous
- Nasal turbinates: Pale and boggy
- Chest: Faint expiratory wheezes
- Heart sounds: Normal
- Abdomen: Clear
- Extremities: Clear
- Skin: Clear

What is the most likely cause of Ann's symptoms?

a) Viral respiratory illness
b) Cat allergy with resulting allergic rhinitis and asthma
c) Human variable immunodeficiency
d) Sarcoidosis
e) Polyarteritis nodosa

Answer:

Cat allergy with resulting allergic rhinitis and asthma

Cat dander is a common allergen. Ann's allergic rhinoconjunctivitis, which originally occurred only on a seasonal basis, persisted through the winter months after her family acquired a cat. This is due to perennial exposure to a relevant aeroallergen. In addition, she is starting to exhibit symptoms of asthma, first with viral URIs, and now, symptoms even in the absence of viral URIs.

A diagnosis of cat allergy is further supported by the allergic reaction she experiences when she transfers a large amount of allergen from her hand to her eye.

Allergen immunotherapy carries a small, but significant risk of anaphylaxis, and poorly controlled asthma is a relative contraindication to its use.

What should be done for Ann?

The patient is referred to an allergy specialist. Testing confirms allergy to cat, trees, grass, and ragweed. Pulmonary function testing shows a forced expiratory volume in one second of 75%, improving to 95% post-bronchodilator. These results are consistent with an asthma diagnosis.

Allergen avoidance includes removing the cat from the family home. Regular cleaning thereafter helps reduce residual allergen levels. Doors and windows are kept closed during the relevant seasons to keep pollen out of the home.

For her rhinitis, the patient is started on an intranasal corticosteroid with good effect. Ocular symptoms are controlled with anithistamine/mast cell stabilizer eyedrops. For her asthma, Ann is started on a low-dose inhaled corticosteroid with short-acting beta 2 agonist as rescue treatment; her coughing improves, as does her exercise tolerance.

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What about immunotherapy?

Immunotherapy is not recommended for this patient. Allergen avoidance and pharmacotherapy are considered first-line treatments for allergic rhinitis. Immunotherapy is generally reserved for individuals with allergic rhinoconjunctivitis who fail adequate trials of allergen avoidance and pharmacotherapy and continue to have significant symptoms.

The role of immunotherapy in asthma is less clear. Although various studies have shown some efficacy of allergen immunotherapy in asthma, allergen avoidance and pharmacotherapy are still the cornerstones of management. Allergen immunotherapy carries a small, but significant risk of anaphylaxis, and poorly controlled asthma is a relative contraindication to using immunotherapy.

In the near future, monoclonal antibody directed against human immunoglobulin E will likely be available for clinical treatment.

In the near future, monoclonal antibody directed against human immunoglobulin E will likely be available for clinical treatment. It may be useful in individuals who have allergic asthma. Based on experience with other monoclonal antibodies, side-effects may be significant and cost may limit its use. Agents for specific immunotherapy, now under development, may be more effective and safer than current products. Dx