Worsening Cough in an Asthmatic

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Situation:

√ Henry, 65, is a smoker who presents with a worsening cough and is concerned about a cat allergy.

√ Henry was diagnosed with asthma seven years ago. He did well on combined treatment with inhaled corticosteroid and long-acting ß-agonists, until about six months ago when cough, wheeze and shortness of breath all dramatically increased, despite his continued use of inhalers. Henry is often awakened at night because of severe coughing. He has some right, lower chest and back discomfort, which he attributes to a pulled muscle from repetitive coughing. His cough produces a yellowy-brown sputum. Henry has no fever, but has lost between 5 lbs to 10 lbs over the past three months which he attributes to a loss of appetite and difficulty eating because of his cough.

History:

√ Henry smokes three packs of cigarettes q.d. and began smoking when he was 13. He has no nasal congestion or itching, though he does have rhinorrhea associated with coughing fits. There is no seasonal pattern to the rhinorrhea. There is no ocular irritation.

Notes on Henry

Age: 65

Presentation:

- Smoker who presents with a worsening cough
- Possible allergy to cats

He has no animals at home, though he is exposed to a cat at his daughter's home, where he has recently been spending more time since retiring about two months ago. He has never noticed any symptoms after handling the animal, but is concerned that a cat allergy may be exacerbating his asthma. He has no unusual hobbies and has no unusual exposure to airborne substances. Henry has no history of food allergy or eczema. He thinks his son has hay fever.

√ Past history is remarkable for hypertension, which is well-controlled with a calcium channel blocker (CCB).

√ Physical examination is remarkable for mild clubbing and peripheral cyanosis. The chest is hyperresonant to percussion, with dullness at the right base. Breath sounds are distant, absent at the right base and there is prolongation of expiration with scattered faint wheezing throughout.

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√ A pulmonary function test reveals reduced diffusion capacity at 50%, reduced forced expiratory volume at 50%, as well as increased residual volume with gas trapping. There is no response to the use of a bronchodilator.

√ Allergy skin prick tests, including a test for cat allergy, are all negative.

Why is Henry's cough worse?

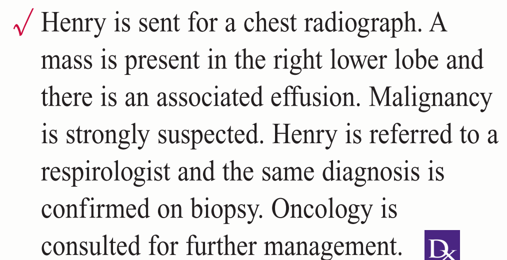
Possibilities:

√ Chronic obstructive pulmonary disease (COPD) with probable malignancy.

√ The age of onset of Henry's symptoms and his history of heavy cigarette smoking, combined with the absence of history suggesting atopy, suggest that his initial chest symptoms were due to COPD rather than asthma. While antihypertensive therapy can cause chest symptoms (ß-blockers can exacerbate both COPD and asthma and angiotensin receptor blockers can cause cough), Henry is being treated with a CCB, which would not be expected to cause any respiratory symptoms.

The low diffusion capacity, increased residual volume with gas trapping and the lack of response to a bronchodilator on pulmonary function testing supports the diagnosis of COPD. The absence of allergy is confirmed with negative allergy skin prick tests. His symptoms of weight loss and chest discomfort, combined with the physical findings of clubbing, with dullness to percussion and absent breath sounds at the right lung base suggest that there is a new process responsible for his recent exacerbation. This is ominous in view of his smoking history.

Further investigations and management:



√ Henry is sent for a chest radiograph. A mass is present in the right lower lobe and there is an associated effusion. Malignancy is strongly suspected. Henry is referred to a respirologist and the same diagnosis is confirmed on biopsy. Oncology is consulted for further management. Dx

Upcoming case...

√ ***March:*** A Growing Nose

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