My doctor says I have emphysema, but I have never smoked. Do you think he could be wrong?

I don’t think he is necessarily wrong. Though smoking is a major cause of emphysema, other factors are in operation.

An enzyme called alpha-1 antitrypsin is made in the liver. It travels via the blood system to the lungs, where it inhibits another enzyme called elastase. This prevents digestion of elastin fibers in the lung, and so protects against “auto digestion” of the alveolar walls.

Some individuals do not produce this protective enzyme (alpha-1 antitrypsin), and they can develop emphysema without being smokers.

Even in smokers, it seems that emphysema may affect individuals who have relative deficiencies in alpha-1 antitrypsin. Some people have a partial deficiency, not total deficiency.

Tobacco smoke contains elements that inhibit alpha-1 antitrypsin, and persons with low levels may be at increased risk of emphysema. A family history of emphysema should be a powerful warning of one’s potential vulnerability to tobacco-causing emphysema.

Asthmatics often have extra air trapped in the alveola (air sacs) because of the narrowed airway, and an X-ray may demonstrate a hyperinflated picture, which on occasion is interpreted as “emphysema.” More sophisticated testing can decide if this is a correct diagnosis. In the days when we had only simple X-rays, we were taught that “you can’t make a diagnosis of emphysema on a simple chest X-ray.”

If your doctor is correct—as he well may be—there is a powerful message for your children, who may have inherited your genetic predisposition. They should definitely avoid smoking! Even if they don’t have your full-blown problem, they may be genetically weak in the area of alpha-1 antitrypsin activity. To smoke with a predisposition to emphysema is not something their lungs can cope with.

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