The Contribution of Respiratory Viruses to Severe Exacerbations of Asthma in Adults

To the Editor:

The question of whether respiratory viruses play a role in exacerbations of asthma is important, topical, and controversial. Identifying the cause of exacerbations will help optimize treatment and prophylaxis. Sokhandan et al. (CHEST 1995; 107:1570-75) suggest that viral infection may not be as prevalent a precipitate of asthma in adults requiring emergency room treatment as is generally thought. Others may not find their data convincing. Sokhandan et al. used viral culture and rapid antigen detection by fluorescent staining for all 33 patients, but serology was only undertaken for 16 of the 33. Human rhinoviruses and coronavirus are fastidious for certain cells and growth conditions, which may explain in part their failure to identify viruses. Indeed using the same assays during the study months the Clinical Virology Laboratory at University Hospitals, Cleveland, failed to isolate any human rhinoviruses or coronaviruses, which together cause about two thirds of common colds, from other patients with respiratory symptoms.

A report from our unit has shown seminested reverse transcriptase polymerase chain reactions to be five times more sensitive than cell culture in detecting human rhinoviruses in samples from adults with respiratory virus infections. Other reports from our unit have also shown that enzyme linked immunosorbent assays for antibodies to human coronaviruses of groups 229E and OC43 were able to detect infection in 7 to 19% of paired serum samples from patients with upper respiratory tract infections. These diagnostic methods and others were subsequently applied to determine the role of respiratory viruses in exacerbation of asthma in adults. Overall 44% of 61 exacerbations with a mean decrease in peak flow rate of ≥50 L/min were associated with laboratory confirmed nonbacterial infections, of which the majority (78%) were caused by human rhinoviruses and coronaviruses. We note with interest that 56% of the cases by Sokhandan et al. had symptoms of an upper respiratory tract infection. We suspect that the use of alternative diagnostic methods would confirm that viral infections are indeed a common cause of asthma in adults requiring emergency room treatment.

Ala'Edin H. Ahmed, MD,
Karl G. Nicholson, MD, and
Victoria S. Hammersley, BSc;
Department of Microbiology and Immunology,
Leicester University,
England

REFERENCES

Dyspnea Doesn't Always Signify Bronchial Asthma

To the Editor:

Drs. Patel and Norman (CHEST 1995; 107:569-70) presented one case of unilateral hyperlucency with left lower lobe mass in a patient with bronchial asthma. In the abstract they wrote that the patient had a history suggestive of bronchial asthma. But we read that the patient "denied a history of fever, preceding upper respiratory tract infections, or any allergies," and also, "She gave a history of recent hospitalization for left lower lobe pneumonia a few months prior to this admission. . ." (CHEST 1995; 107:569).

Asthma has been defined by the American Thoracic Society as a disease characterized by hyperreactivity of the airways to various stimuli, resulting in airway obstruction that is reversible either spontaneously or as a result of treatment. From the allergist's point of view, bronchial asthma is the extreme form of bronchial asthma,2 even if the term "asthma" is frequently applied to the dyspnea encountered in a variety of nonasthmatic conditions.

Thus, although a precise definition of asthma has not been established, it is accepted that asthmatic patients, clinically, experience one or more of the following symptoms: cough, paroxysmal attacks of dyspnea, and wheeze or chest tightness at night, in the morning, or after exposure to a variety of environmental stimuli.

If asthma is a syndrome, dyspnea is the main symptom. Asthma, however, is not (only) dyspnea, and not all patients reporting episodic dyspnea suffer from asthma.4 Differences between asthma and COPD are described,1 pleural or pulmonary neoplasms are known as causes of dyspnea6 and that malignancies very rarely occur among people suffering from bronchial asthma is also known.7 The patient from the study by Patel and Norman never suffered from bronchial asthma (no allergens or aspecific stimuli involved; no response to β-agonist or steroids). Simply, she had a lung cancer presenting with dyspnea. Nothing else. This presentation is common in tracheal and tracheobronchial cancer7. Vesicolar breath sounds and crackles were clear signs of the underlying postobstructive pneumonia. As such, the case should have been reported, otherwise it is misleading the readers.

Sebastiano Rizzo, MD, FCCP,
Division of Pneumology,
Iroes-Poliilineo S. Matteo,
Pavia, Italy

REFERENCES
3 Scadding JG. Asthma and bronchial reactivity. BJJ 1987; 294:1115-16
5 Scott JA, Mahler DA. Diagnosis of obstructive pulmonary disease