CLINICAL GUIDELINES FOR FAMILY PHYSICIANS

Chronic Obstructive Pulmonary Disease

BY NEIL S. SKOLNIK, M.D., AND HANNAH ELTON, M.D.

Chronic obstructive pulmonary disease is the fourth leading cause of chronic morbidity and mortality. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines aim to prevent disease progression, relieve symptoms, prevent and treat complications and exacerbations, improve exercise tolerance and health status, and reduce mortality, while minimizing side effects, risks, and costs of treatment (www.goldcopd.com).

Guidelines are most useful when they are available at the point of care. A concise yet complete handheld computer version of this guideline is available for download, compliments of FAMILY PRACTICE NEWS, *at www.redi-reference.com.*

Assessment, Monitoring

The benefit of community screening by spirometry is unclear at this time. Consider a diagnostic spirometry in patients with chronic cough symptoms, sputum production, dyspnea, and exposure history.

Patients with chronic symptoms, a history of smoking, and a normal spirometry are categorized as stage 0 (at risk). Those in the remaining stages may or may not have chronic symptoms, but may have an abnormal spirometry, highlighting the importance of spirometry in all smokers. Stage 1 (mild) COPD is defined as a ratio—forced expiratory volume in 1 second (FEV_1) to forced vital capacity (FVC)—that is less than 70%, and an FEV_1 that is greater than 80%. Stage 2 (moderate) COPD is defined as an FEV_1 that is between 50% and 80%. In stage 3 (severe) COPD, the FEV_1 is 30%-50%. Stage IV (very severe) COPD is defined as an FEV_1 less than 30% (or less than 50% with chronic respiratory failure).

Reducing Risk Factors

Risk factors may be genetic or environmental from exposure to tobacco smoke, occupational irritants, air pollution, or infections. Smoking is the major risk factor for COPD. Total pack-years and current smoking are predictive of mortality. Women appear to be more susceptible than men. Only 15%-20% of smokers will develop significant COPD, suggesting that genetic factors are important. Tobacco cessation is the most effective way to reduce risk.

Managing Stable Disease

Take a careful history of exacerbations, hospitalizations, current treatment, symptom development, life impact, and support systems. Classic barrel chest, central cyanosis, pursed-lip breathing, or signs of right heart failure may be seen on exam. In addition to spirometry, further tests can be helpful: Baseline blood gases can give further information in defining severe disease, and a chest x-ray can rule out other diseases; CT is not routinely recommended. Alpha$_1$-antitrypsin deficiency screening can be considered if there is onset of COPD before age 45 years or if there is strong family history. Echocardiogram, ECG, and/or MRI may be helpful if right heart failure or cor pulmonale is suspected. Sleep studies may be considered if hypoxia or right heart failure is out of proportion to airflow limitation.

No treatment prevents progression; rather, it improves symptoms and decreases exacerbations:

► **Stage 0:** Address risk factor reduction and give influenza vaccine annually.

► **Stage 1:** Add short-acting bronchodilators (β-agonists, anticholinergics, theophylline) as needed for symptoms. Combining bronchodilators is more effective and may have fewer adverse effects than would a dosage increase.

► **Stage 2:** Add daily treatment with one or more long-acting bronchodilators (either a long-acting β_2-agonist or a long-acting anticholinergic), and add pulmonary rehabilitation therapy.

► **Stage 3:** Add inhaled steroids to decrease frequency of exacerbations. Combine a long-acting β-agonist with an inhaled steroid for greater efficacy. Long-term treatment with systemic glucocorticosteroids should not be used; it is unclear if a short course predicts response to regular inhaled treatment.

► **Stage 4:** An increase in survival is seen in patients with chronic respiratory failure who receive long-term supplemental oxygen. Patients with a pulse oximetry less than 88% and pulmonary hypertension, peripheral edema, or polycythemia should have oxygen therapy to maintain pulse oximetry greater than 90%. There is no benefit shown for using short-burst oxygen before or after exercise for the relief of symptoms. Surgical treatments may be considered for patients with very severe COPD. Patients with upper-lobe emphysema and low postrehabilitation exercise capacity may benefit from lung volume resection. In appropriate patients, transplantation improves quality of life and lung function. In severely disabled patients, a wheeled walker will improve walking distance and breathing.

The Bottom Line

Community screening for COPD is not presently recommended. Physicians need to perform spirometry if patients have chronic cough, sputum production, dyspnea, or exposure risk. Tobacco cessation is the most effective and cost-effective way to reduce risk. Stage the severity of the disease and implement stepwise treatment: At stage 2, treatment with a long-acting bronchodilator should be started; at stage 3, start inhaled steroids; and at stage 4, long-term oxygen may be started. Promptly diagnosing and managing COPD can have a major effect on quality of life.

DR. SKOLNIK is associate director of the family practice residency program at Abington (Pa.) Memorial Hospital and a coauthor of the "Redi-Reference Clinical Guidelines" handbook for handheld computers. DR. ELTON *joins a private practice in Medford, N.J., this summer.*

VA Study: Depression and Anxiety Seen With COPD

BY DOUG BRUNK
San Diego Bureau

SAN DIEGO — Most patients with chronic obstructive pulmonary disease have at least moderate levels of anxiety or depression, results from a Veterans Affairs hospital study showed.

In fact, most such patients have anxiety as well as depressive symptoms, often at moderate to severe levels, Mark E. Kunik, M.D., reported at the annual meeting of the American Association for Geriatric Psychiatry.

In a study that was part of a larger randomized, controlled trial of cognitive behavioral therapy for cognitively intact COPD patients who are anxious or depressed, Dr. Kunik and his associates at the Michael E. DeBakey VA Medical Center, Houston, screened 557 men with COPD or related diagnoses by telephone with five questions from the Primary Care Evaluation of Mental Disorders (PRIME-MD):

1. During the past month, have you been bothered often by "nerves" or feeling anxious or on edge?
2. During the past month, have you been bothered often by worrying about a lot of different things?
3. During the past month, have you had an anxiety attack (suddenly feeling fear or panic)?
4. During the past month, have you been bothered often by feeling down, depressed, or hopeless?
5. During the past month, have you been bothered often by having little interest or pleasure in doing things?

Patients who screened positive by phone were assessed at the medical center with the Beck Depression Inventory, the Beck Anxiety Inventory, spirometry, the Mini Mental State Examination, and the structured clinical interview for DSM-III-R (SCID). Of the 557 men, 204 met eligibility for the trial.

Of the 204 eligible men, 24 (12%) met SCID criteria for depressive disorder only, 48 (23%) met SCID criteria for anxiety disorder only, and 53 (26%) met criteria for co-occurring depressive and anxiety disorder, whereas 79 (39%) did not meet SCID criteria for anxiety or depression, reported Dr. Kunik, a geropsychiatry health services researcher at the medical center.

When the 204 patients were asked if they were currently receiving treatment for their depression or anxiety, 31% said they were. But a chart review revealed that only 20% were receiving anxiolytics or antidepressants.

Of the 91 patients who had severe levels of depression or anxiety, less than half (46%) were receiving treatment for depression and/or anxiety, and about 31% were taking an antidepressant or an anxiolytic. "I find that the most troublesome finding of the study," he said.

A limitation of the study, he noted, was that the sample consisted only of males in the VA. ■

Acetaminophen Use Associated With Respiratory Problems

BY HEIDI SPLETE
Senior Writer

Acetaminophen might be detrimental to the lungs, reported Tricia M. McKeever, Ph.D., of the University of Nottingham (England) and her colleagues.

An analysis of data from the third National Health and Nutrition Examination Survey (NHANES III) confirmed previous findings suggesting links between consistent acetaminophen use and asthma risk, chronic obstructive pulmonary disease (COPD) risk, and poor lung function. The study included 13,492 adults, 53% of whom were women, with a mean age of 45 years. About 41% were white, 30% were black, and 29% were Mexican American (Am. J. Respir. Crit. Care Med. 2005;171:966-71). The participants completed questionnaires and underwent physicals and lung function tests.

Overall, the prevalence of asthma was 6.9%, the prevalence of COPD was 11.8%, and the prevalence of both conditions together was 2.8%. About 4% of the participants reported taking acetaminophen daily, compared with 8.2% and 2.5% of those who reported taking daily aspirin and ibuprofen, respectively.

A dose-dependent relationship surfaced between increased acetaminophen use and increased asthma prevalence, with an odds ratio of 1.20 for each increasing category of medication intake. The categories were: never, occasional (1-5 times per month), regular (6-29 times per month), and daily (at least 30 times per month).

Regular or daily acetaminophen use also was associated with an increased prevalence of COPD (odds ratio 1.16 for each increasing category of use), independent of asthma risk. ■