ACP Updates Guideline on Diagnosis and Management of Stable COPD

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Evidence rating system used? Yes

Literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? No

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Chronic obstructive pulmonary disease (COPD) affects more than 5 percent of U.S adults and is the third leading cause of death. Manifestations of COPD range from dyspnea and poor exercise tolerance to chronic cough, wheezing, and respiratory failure. In cooperation with the American College of Chest Physicians, American Thoracic Society, and European Respiratory Society, the American College of Physicians (ACP) recently updated its 2007 guideline on the diagnosis and management of stable COPD to include new recommendations on when to consider pharmacotherapy, how to select an agent for monotherapy, and the preferred treatment for patients with respiratory symptoms and a forced expiratory volume in one second (FEV_1) between 60 and 80 percent of predicted.

The diagnosis of COPD is confirmed when a symptomatic patient is found to have airflow obstruction (generally defined as a postbronchodilator FEV_1/forced vital capacity ratio of less than 0.70). The best combination of factors to exclude COPD is never having smoked, no patient-reported wheezing, and no wheezing on examination. Treatment benefits for COPD are primarily related to preventing and treating exacerbations among patients who have or are likely to have them, reducing hospitalizations and mortality, relieving dyspnea that limits activity, and improving exercise tolerance and health-related quality of life.

Recommendations

Spirometry should be obtained to diagnose airflow obstruction in patients with respiratory symptoms (strong recommendation; moderate-quality evidence). It should not be used to screen for airflow obstruction in patients without respiratory symptoms (strong recommendation; moderate-quality evidence).

Targeted use of spirometry for diagnosis of airflow obstruction is beneficial in patients with respiratory symptoms, particularly dyspnea. However, current evidence does not support the use of spirometry as a screening strategy for airflow obstruction in persons without respiratory symptoms, even in the presence of risk factors. The routine use of spirometry in asymptomatic patients may lead to unnecessary testing, increased costs, unnecessary labeling, and adverse effects from long-term treatment. There is insufficient evidence to support the use of inhaled therapies in asymptomatic patients who have spirometric evidence of airflow obstruction, and there is no difference in the annual rate of FEV_1 decline or prevention of symptoms in these patients if they receive treatment. There is no evidence from randomized controlled trials to support treating asymptomatic patients, regardless of their risk factors, if they do not have spirometric evidence of airflow obstruction. In addition, spirometry does not seem to affect the likelihood that a person would quit smoking or maintain abstinence.

Inhaled bronchodilators can be used in patients with stable COPD who have respira-

tory symptoms and an FEV_1 between 60 and 80 percent of predicted (weak recommendation; low-quality evidence).

There is limited and conflicting evidence on the benefits of inhaled bronchodilators (anticholinergics or long-acting beta agonists) in symptomatic patients with an FEV_1 between 60 and 80 percent of predicted. Individual patients may have improvement in respiratory symptoms, but the duration of maintenance therapy and the frequency of reevaluation are not known. This recommendation does not address the occasional use of short-acting inhaled bronchodilators for relief of acute symptoms.

Inhaled bronchodilators are the treatment of choice in patients with stable COPD who have respiratory symptoms and an FEV_1 less than 60 percent of predicted (strong recommendation; moderate-quality evidence).

Patients with respiratory symptoms and airflow obstruction with an FEV_1 less than 60 percent of predicted benefit the most from inhaled bronchodilators. This recommendation does not address the occasional use of short-acting inhaled bronchodilators for relief of acute symptoms.

Monotherapy with long-acting inhaled anticholinergics or long-acting inhaled beta agonists should be prescribed for symptomatic patients with COPD and an FEV_1 less than 60 percent of predicted (strong recommendation; moderate-quality evidence). The choice of agent should be based on patient preference, cost, and potential adverse effects.

Monotherapy with a long-acting inhaled beta agonist or a long-acting inhaled anticholinergic reduces COPD exacerbations and improves health-related quality of life. Evidence on the effect of inhaled agents on mortality, hospitalizations, and dyspnea is inconclusive. Although inhaled corticosteroids have been proven superior to placebo in reducing exacerbations, their potential adverse effects (e.g., thrush, bone loss, bruising) prevent them from being a preferred monotherapy for patients with stable COPD. Pooled analyses of results from trials of monotherapy do not show any statistically significant differences in outcomes among agents.

A combination of inhaled therapies (long-acting anticholinergics, long-acting beta agonists, or corticosteroids) can be prescribed for symptomatic patients with stable COPD and an FEV_1 less than 60 percent of predicted (weak recommendation; moderate-quality evidence).

Symptomatic patients with stable COPD and an FEV_1 less than 60 percent of predicted may benefit from combination therapy, but it is not clear when combination therapy should be used instead of monotherapy. In two large clinical trials, the long-term benefit of combination therapy compared with monotherapy was moderate for COPD exacerbations and of borderline statistical significance for mortality. However, these benefits were not consistently found in earlier trials. Some—but not all—trials have found that combination therapy is associated with a moderate increase in the risk of adverse effects. Therefore, there is not sufficient evidence to support a strong recommendation for the broad use of combination therapy, and physicians should weigh the potential benefits and harms of combination therapy on a case-by-case basis.

Pulmonary rehabilitation should be prescribed for symptomatic patients with an FEV_1 less than 50 percent of predicted (strong recommendation; moderate-quality evidence). It can be considered for symptomatic or exercise-limited patients with an FEV_1 greater than 50 percent of predicted (weak recommendation; moderate-quality evidence).

Controlled trials of pulmonary rehabilitation have included patients with a mean FEV_1 less than 50 percent of predicted. However, it is not clear if the benefits can be generalized to patients with less severe airflow obstruction. Physicians can consider prescribing pulmonary rehabilitation for patients with an FEV_1 greater than 50 percent of predicted if they remain symptomatic or have exercise limitation despite optimal medical therapy.

Continuous oxygen therapy should be prescribed for patients with COPD who have arterial partial pressure of oxygen 55 mm Hg or less, or oxygen saturation 88 percent or less as measured by pulse oximetry (strong recommendation, moderate-quality evidence).

To accurately evaluate oxygen status, the assessment should occur when patients are stable, rather than during or immediately after an exacerbation. Use of supplemental oxygen for at least 15 hours per day can help improve survival in patients with severe resting hypoxemia. ■

Answers to This Issue's CME Quiz

Q1. A	**Q6.** B, D	**Q11.** D
Q2. B	**Q7.** C	**Q12.** B, C, D
Q3. A, C, D	**Q8.** A, B, C, D	**Q13.** A, C, D
Q4. A	**Q9.** B, C	**Q14.** A, C, D
Q5. A, B, C	**Q10.** B	