

Management of chronic obstructive pulmonary disease: Moving beyond the asthma algorithm

Instructions for category 1 Continuing Medical Education credit

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Learning objectives: "Management of chronic obstructive pulmonary disease: Moving beyond the asthma algorithm"

1. To identify therapeutic options for chronic obstructive pulmonary disease (COPD): evidence based on prospective controlled trials.
 2. To describe specific benefits of pharmacologic agents (inhaled corticosteroids [ICSs], long-acting β -agonists, and anticholinergics) in patients with COPD.
 3. To describe the benefits of nonpharmacologic therapies in patients with COPD.
 4. To name the recommended vaccinations for patients with COPD.
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CME items

Question 1. Which of the following is true in regard to COPD pathogenesis?

- A. In developed countries biomass fuel is implicated as an important causative agent.
- B. The inflammatory pattern seen is mostly macrophages, neutrophils, and CD4⁺ lymphocytes.
- C. Increased numbers of goblet cells lead to airflow limitation.
- D. Allergen avoidance is the only intervention that reduces the rate of decrease in lung function in patients with COPD.

Question 2. With regard to the Global Initiative for Chronic Obstructive Lung Disease guidelines, based on the following lung volumes and clinical scenarios, which patient would you recommend starting an ICS?

- A. FEV₁/forced vital capacity (FVC) ratio of 80%, FEV₁ of 85%, and hospitalized every November for the last 3 years for worsened cough
- B. FEV₁/FVC ratio of 60%, FEV₁ of 47%, and never been hospitalized
- C. FEV₁/FVC ratio of 68%, FEV₁ of 55%, and hospitalized every November for the last 3 years for worsened cough
- D. FEV₁/FVC ratio of 65%, FEV₁ of 47%, and hospitalized every November for the last 3 years for worsened cough

Question 3. Which of the following is true regarding the effects of ICSs on patients with COPD?

- A. ICSs decrease COPD-related mortality.
- B. ICSs decrease the severity of pneumonia in patients with COPD.
- C. ICSs reduce the frequency of COPD exacerbations.
- D. ICSs have no effect on quality-of-life scores.

Question 4. Which of the following is true regarding oral corticosteroids in patients with COPD?

- A. The long-term use of low-dose oral corticosteroids is supported by the literature.
- B. The evidence clearly supports the use of high-dose systemic corticosteroids in patients with stable COPD.
- C. The use of high-dose oral corticosteroids (>30 mg of prednisolone) for 2 weeks has been shown to increase FEV₁.
- D. Studies of effects on quality-of-life measures, symptom scores, or exacerbation rates either for long- or short-term high-dose oral corticosteroids have demonstrated clear benefit.

Question 5. Which of the following is true regarding tiotropium compared with ipratropium?

- A. Tiotropium preferably acts on M1 receptors.
- B. The long-acting bronchodilatory effect of tiotropium is mainly due to slow dissociation from M2 muscarinic receptors.
- C. The rapid dissociation of tiotropium from M2 inhibitory subtype receptors might further inhibit acetylcholine release.
- D. Tiotropium preferably acts on M4/5 receptors on airway smooth muscle.

Question 6. Which of the following effects of tiotropium makes it an excellent COPD treatment option?

- A. decrease in all-cause mortality
- B. improved exercise tolerance
- C. delayed decrease in residual volume
- D. long-acting mucolytic effects

Question 7. Which of the following is true in regard to pulmonary rehabilitation?

- A. Pulmonary rehabilitation has been shown to improve exercise capacity, severity of dyspnea, and health-related quality of life.
- B. There are more data on pulmonary rehabilitation in patients with chronic asthma.
- C. A recent meta-analysis by Lacasse et al showed improvement in health-related quality of life but a decrease in functional exercise capacity.
- D. Pulmonary rehabilitation has been shown to improve exercise capacity and health-related quality of life but not severity of dyspnea.

Question 8. How is the role of oxygen therapy in COPD best described?

- A. Initiated early, supplemental oxygen therapy can slow the decrease in lung function in patients with COPD.
- B. Continuous oxygen therapy has been shown to improve survival in patients with severe hypoxemia.
- C. Continuous oxygen therapy has been shown to improve survival in patients with mild-to-moderate hypoxemia.
- D. A clear benefit of supplemental oxygen therapy in patients with COPD has never been demonstrated.

Question 9. Which of the following statements is true in regard to smoking cessation in patients with COPD?

- A. Smoking cessation results in improved lung function over time in patients with COPD.
- B. Studies have failed to show a reduction in all-cause mortality in patients with COPD who quit smoking.
- C. Patients with COPD who stop smoking have a slower rate of decrease in lung function over time compared with those who continue to smoke.
- D. Medications used to aid in smoking cessation are well tolerated and safe.

Question 10. Which of the following statements is false in regard to vaccinations?

- A. Pneumococcal vaccine is recommended for all adults who smoke.
- B. Pneumococcal vaccine benefits have been more clearly demonstrated for asthmatic subjects than for patients with COPD.
- C. Inactivated influenza vaccine has been shown to reduce mortality and morbidity for all adults with COPD.
- D. Inactivated influenza vaccine might exacerbate COPD.