Followup to November 2004 Update on COPD!

Judith's Journey: COPD Treatment

Andrew McIvor, MD, FRCPC
Presented at Dalhousie's Refresher Course in General Medicine, 2004

Judith's Case

- Age: 68
- Smokes 1 to 2 packs/day
- Daily cough and sputum throughout winter over last 5 to 6 years.
- Required antibiotic treatment on numerous occasions
- Using salbutamol and ipratropium bromide inhalers as needed
- Chest X-ray: Hyperinflation
- Lung function studies:
  - Forced vital capacity (FVC) of 3 L (75% predicted)
  - Forced expiratory volume in 1 second (FEV_1) is 1.5 L (50% of predicted); FEV_1/FVC 50%.
- Judith recently retired and hopes to play golf, but has trouble completing nine holes, even with a cart.

What are the treatment goals for Judith?

The goals of chronic obstructive pulmonary disease (COPD) management include:

- preventing disease progression,
- alleviating symptoms,
- improving exercise tolerance,
- preventing and treating exacerbations and
- reducing mortality.

COPD therapy follows a different management strategy to that of asthma, which relies mainly on management of airway inflammation using inhaled corticosteroids (ICS) as first-line, disease-modifying management.

What about Judith's smoking?

Smoking cessation is the only intervention that has been shown to slow the progression of COPD. Brief counselling lasting three to five minutes should be offered to every smoker.

More intensive therapy, including individual and group counselling, along with either nicotine replacement and buproprion therapy, or a combination of both, results in the highest quit rates.

Advocate for a smoke-free workplace or home, as it can be extremely difficult for one individual to try and quit when others are still smoking in a shared environment.

Any recommended therapies?

Annual flu shots and a one-time pneumovax shot are recommended for all patients. Bronchodilators decrease hyperinflation, reduce dyspnea and enhance quality of life, even with minimal or no improvement in spirometry, and are the first-line therapy for COPD.

Long-acting bronchodilators, such as the anticholinergic (tiotropium) or beta-2 agonist (formoterol or salmeterol) should be instituted when symptoms persist despite short-acting bronchodilator agents on an as-needed basis.

Combination therapy with both these classes of long-acting bronchodilators is recommended for patients whose symptoms still persist. At this

stage, a therapeutic trial of theophylline may be considered. Theophylline is the only medication with the potential of life-threatening side-effects (*i.e.*, arrhythmia or seizures).

In addition, patients who have persistent breathlessness despite optimum bronchodilator therapy or who have had three or more exacerbations in a year should be considered for the addition of an inhaled corticosteroid. Optimal treatment for the very severely dyspneic COPD patient troubled by frequent exacerbations is a combination inhaler (inhaled corticosteroid/long-acting beta-2 agonist) plus a long-acting anticholinergic.

What is pulmonary rehabilitation?

Pulmonary rehabilitation is a more formal education and exercise program; however, it is a scarce resource. It is recommended that the stable COPD patient who remains breathless and is limited in activity despite optimal bronchodilator therapy be referred to an exercise reconditioning program.

Many patients with COPD fear exacerbating their symptoms or damaging their lungs with exercise. It is important to educate patients that they will not damage their lungs from exertion; it is, however, not unexpected that they will experience shortness of breath and may have to rest and use additional reliever medications.

How are exacerbations managed?

Acute exacerbations of COPD are the most frequent causes of medical visits, hospitalizations and death among COPD patients.

Dr. McIvor is an associate professor, department of medicine, Dalhousie University, and head, division or respirology, Queen Elizabeth II Health Sciences Centre, Halifax, Nova Scotia.

Judith's Sucess

Judith receives an educational booklet on chronic obstructive pulmonary disease (COPD), an annual flu shot and a one-time pneumovax shot.

She remains symptomatic with regular, short-acting bronchodilators by metered-dose inhaler (MDI) and is changed to long-acting anticholinergic inhaler, tiotropium, with a short-acting bronchodilator.

During the subsequent winter, she has four exacerbations, recurrent treatment with oral steroids and antibiotics, which were cycled between different classes. Inhaled therapy was optimized with tiotropium once daily plus fluticasone propionate and salmeterol inhalation powder, 500/50 mcg combination, by diskus twice daily.

Smoking cessation is eventually attained and the patient is referred to a pulmonary rehabilitation program.

Exacerbations can be non-purulent or purulent (for which antibiotics should be considered). Aggressive combination bronchodilator therapy should be used to relieve dyspnea during exacerbations.

Oral corticosteroids should be administered concurrently, on discharge from hospital or during hospital treatment. Usual dosage, particularly in people with advanced lung disease, is 25 mg to 50 mg orally daily for 10 days with no need to taper.

Importantly, if a patient requires repeated antibiotic therapy within three months for any reason, an antibiotic from a different class should be used to minimize the risk of resistance and treatment failure.

Do not become complacent with management. Reflect on new evidence, considering changes in practice by becoming familiar with the new Canadian guidelines and becoming more confident and competent in the management of this chronic disease.

cme