Exacerbations

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Exacerbations

An exacerbation of COPD is an acute event characterized by a worsening of the patient's respiratory symptoms that is beyond normal day-to-day variations and leads to a change in medication.

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Exacerbations

Importance

- Negatively affect a patient's quality of life
- Have effects on symptoms and lung function that take several weeks for recovery
- Accelerate the rate of decline of lung function
- Are associated with significant mortality, particularly in those requiring hospitalization
- Have high socioeconomic costs

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Exacerbations

Causes

- Infection
- Interruption of Maintenance Therapy
- Air Pollution
- Unidentified cause (33%)

Beware masquerading conditions. (LVF, pneumonia, PE, heart failure etc)

Exacerbations

Diagnosis of Exacerbation

Relies on

- Clinical presentation of the patient complaining of an acute change of symptoms especially an increase in
  - Dyspnoea (shortness of breath
  - Cough
  - Sputum production
  - Wheeze

Exacerbations

Severity

- Increased use of accessory respiratory muscles
- Paradoxical chest wall movements
- Worsening or new onset central cyanosis
- Development of peripheral oedema – development of R heart failure (cor pulmonale)
- Hemodynamic instability
- Deterioration in mental status

Exacerbations
Investigations in primary care

Helpful

- Pulse oximetry – important to know saturations when the patient is well
- Chest Xray – but not essential
- Blood screen – but not essential
- Sputum culture – but not essential

Unhelpful

- Spirometry at time of exacerbation

Exacerbations

When to admit to hospital

- Rapidity of disease deterioration. (The more rapid the deterioration usually the worse the outcome)
- Previous admission to hospital
- No improvement in spite of adequate treatment.
- Worsening cor pulmonale or hypoxia
- Multi morbidities
- Confusion secondary to either hypoxia or hypercapnia
- Inability to manage at home
- Uncertainty of diagnosis (the difference between COPD exacerbation and Left ventricular failure can be extraordinarily difficult in primary care.

Exacerbations

Management in General Practice

- Prompt treatment of exacerbations important – delay > 24 hours doubles risk of hospital admission.
- Frequent exacerbators are more likely to experience a rapid decline in FEV_1 and are more likely to die of COPD-related complications.
- An exacerbation in the previous 12 months is the greatest risk factor for a future exacerbation.

Management of a patient with an acute exacerbation of COPD includes:

- Inhaled bronchodilator (increased dose), every three to four hours
- Breathing relaxation techniques
- Oral corticosteroids for five days, if moderate to severe exacerbation
- Oral antibiotics for five to ten days, but only if signs of chest infection

Exacerbations

Management of an acute exacerbation includes

- Inhaled bronchodilator (increased dose), every three to four hours by MDI via spacer. Four individual puffs – 4 breaths.
- Breathing relaxation techniques
- Oral corticosteroids for five days, if moderate to severe exacerbation – prednisone 40 – 60 mg daily for 7 days. If the patient is not steroid dependant, there is no need to taper the dose.
- Oral antibiotics for five to ten days, but only if signs of chest infection – purulent sputum or systemic signs of infection.

Exacerbations

Management Plans

- All COPD patients should have a written management plan – what to do and when to do it! Should include -
  - Saturations **when they are well**
  - Current medications, and allergies
  - Which bronchodilator to increase
  - When to start antibiotics
  - When to start prednisone
  - When to obtain medical help
  - When to call an ambulance

  Appropriate patients should have a home supply of steroids, and antibiotic.