COPD

DIAGNOSIS

Usual Clinical Presentation

- Older than 40 years old
- Smoke exposure (very important, usually from tobacco)
- Dyspnea (ask details about activity level)
- Recurrent lower respiratory tract infections)
- Chronic cough
- Chronic sputum production
  - Sputum → **chronic bronchitis**
  - No sputum → **emphysema**

Confirming Diagnosis

- CXR to exclude other diagnosis
- Spirometry confirms the diagnosis (with compatible hx):
  - FEV1/FVC ratio < 0.7
- FVC should be normal. If low, consider restrictive disease in addition to obstruction. May need full PFTs.
- Post-bronchodilator value gives idea of what function could be with optimal therapy

SEVERITY

GOLD staging (spirometry):

1. Mild: 80 < FEV1
2. Moderate: 50 < FEV1 < 80
3. Severe: 30 < FEV1 < 50
4. Very Severe: FEV1 < 30

GOLD staging (clinical):

A. Loss symptoms, low risk of hospitalization
B. More symptoms, low risk of hospitalization
C. Less symptoms, high risk of hospitalization
D. More symptoms, high risk of hospitalization

TREATMENT

Management Pearls

- Only therapies to directly improve mortality
  - smoking cessation
  - supplemental O2 (only when used continuously)
- Inhalers and all other therapies improve symptoms and reduce exacerbation.
- However, increase exacerbations do worsen mortality. Thus, indirectly & collectively, anti-exacerbation therapies improve mortality
- Spirometry is only part of the picture. Ultimately need to focus on all factors possibly contributing to symptoms and exacerbations (dysphagia, heart failure, etc.)
- Skinny patients tend to do worse.
- Pulse ox cannot detect carboxyhemoglobin, if suspecting → check ABG
- Always prescribe spacer with inhalers.

Primary Maintenance Treatment

1. Short-acting bronchodilator prn
2. Add LABA / LAMA
3. Add ICS
4. Add oxygen

- Inhalers are expensive. Figure out what is affordable.
- LAMA may have anti-muscarinic side effects (dry mouth, urinary retention)

Secondary Maintenance Treatment

- Azithromycin (anti-inflammatory)
- Roflumilast (PDE-4 inhibitor)
- Home ventilation (CPAP, BiPAP), use with home O2 (if PCO2 >52, or O2 <88% when not in acute exacerbation)

ACUTE EXACERBATION

- Symptoms:
  - **Worse dyspnea**
  - Change in sputum
  - Increased cough
- Etiology:
  - infection (viral or bacterial)
  - environmental exposure
  - PE
- Strongly consider ABG

Exacerbation Treatment

- Continue home treatment if feasible
- Prednisone 40 mg daily x5 days (don't use inhaled steroids)
- Short-acting bronchodilator (inhaler & nebulizer are similar)
- Consider Antibiotics, for 5-7 days – if change in sputum, worse cough, or severe enough for hospitalization
  - Any broad spectrum: macrolide, doxycycline. Save quinolones for later or pseudomonas.
- Excessive O2 → CO2 narcosis. Keep O2 saturation 89 -93%
- BiPAP is great – use early to avoid intubation

Discharge criteria:

- Back and stable on home dilators & O2
- Speaking in full sentences
- Activity back to baseline
- Remember: strongest predictor of future exacerbation is hx of previous exacerbations.

Garg's Simple Medicine

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