Hospice Management of COPD

Eligibility
Medications
Maintenance Therapy
Management of Acute Exacerbations

COPD
- Currently 4th leading cause of death
- By 2020 will be 3rd leading cause of death globally
- Late stage symptoms can be worse than lung cancer
- 250,000 deaths annually in USA
- Very unpredictable EOL estimates
- Patient and family denial of terminal condition

Cause of Death 2005
1. Heart disease: 652,091
2. Cancer: 569,312
3. Stroke (cerebrovascular diseases): 143,579
4. Chronic lower respiratory diseases: 130,933
5. Accidents (unintentional injuries): 117,809
6. Diabetes: 75,119
7. Alzheimer's disease: 71,599
8. Influenza/Pneumonia: 63,001
9. Nephritis, nephrotic syndrome, and nephrosis: 43,901
10. Septicemia: 34,136
   - www.cdc.gov
**BODE Index**

- **B**: Body Mass Index
- **O**: Degree of obstruction
- **D**: Dyspnea - MMRC (modified Medical Research Council)
  - Stage 4 indicates too short of breath to leave house; breathless with dressing, undressing
- **E**: Six minute walk test (Exercise)
  - Higher score, higher risk of death
  - N Eng J Med 350;10 March 2004

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**FEV1**

- FEV1 does not reflect the systemic effect of COPD
- FEV1 does not correlate with degree of dyspnea
- Rate of FEV1 decline is a good marker for disease progression and mortality

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**Unmet Needs**

- Reduce burden to family
- Increased services post hospital discharge
- Symptom relief
- Receive adequate information including risks and benefits of treatments
- Communication with physician about COPD
Symptoms Advanced COPD

- Dyspnea 94%
- Fatigue 71%
- Xerostomia 60%
- Cough 56%
- Anxiety 51%
- Drowsiness, irritability, nervous, wheezing
- Significant pain in 33%
  - J Pain Symptom Manage 2009 (in press)

Symptoms and QOL

- The clinical implication that quality of life may be improved by effective management of distressing symptoms or other factors identified in these analyses requires confirmation through clinical trials in patients with COPD, although there are several studies in the literature suggesting that palliative care interventions in patients with advanced disease improves well-being and quality of life.

Dyspnea Interventions

- Only 50% of advanced COPD patients benefit from these interventions:
  - Bronchodilators
  - Oxygen therapy
  - Opioids
  - Lung volume reduction
  - Pulmonary rehabilitation
COPD Hospice Eligibility

- Life limiting condition
- Patient/family have elected course of palliative care
- Patient/caregiver/physician are in agreement on a course of palliative care
- PPS
- ADLs
- BMI, weight loss

COPD Eligibility

#1 and 2 required

- (1) Disabling dyspnea at rest; poor or unresponsive to bronchodilators resulting in decreased functional capacity (bed to chair existence, fatigue, cough). (FEV1 if available <30% if available)
- (2) Increasing visits to ER or current or prior hospitalizations for respiratory infections &/or respiratory failure;
- (3) Hypoxemia at rest pO2 <55 mmHg; or O2 sat ≤ 88% at rest on supplemental O2 (Palmetto says 88% at rest on RA); or O2 hypercapnia pCO2>50mmHg
- Supplemental: Cor-pulmonale & right heart failure secondary to pulmonary disease

Medical Director

- Based on the information noted, in my clinical judgment, the patient has less than 6 months to live.
Cor Pulmonale

- Pulmonary heart disease
- Right ventricular hypertrophy
- Increased right ventricular pressure
- Ascites, edema, cough, chest pain, syncope, fatigue, liver engorgement, dyspnea, weakness, wheezing

Therapy

- Oxygen
- Opioids
- Bronchodilators
  - Beta-agonists short and long acting
  - Anticholinergics short and long acting
- Corticosteroids
  - Inhaled, oral and parenteral
- Antibiotics

Oxygen

- In hypoxic patients, 15 hours of supplemental oxygen will improve survival
- Care to avoid CO2 narcosis
- Oxygen and smoking
Opioids

- Fear by physicians, nurses, patients and families
- No support for nebulized opioids
- Care for the opioid naïve patient when initiating opioids

Bronchodilators

- Short acting beta agonist
  - Appropriate for exacerbations
  - Appropriate for “breakthrough” management of dyspnea
  - Administered via nebulizer, metered dose inhaler (MDI) and inhaled powder

Short Acting Bronchodilators

- Albuterol nebulizer qid $0.84/day
- Xopenex nebulizer $11.80/day
- Albuterol MDI $1.28/day
Bronchodilators

- Long acting beta agonists
  - Relaxation of bronchial smooth muscle
  - Decrease in nocturnal symptoms
  - Improve quality of life
  - Not appropriate for acute symptoms
  - Short acting may be added for dyspnea between doses of LA
    - Salmeterol (Serevent)
    - Formoterol (Foradil)

Long Acting Bronchodilators

- Foradil (fomoterol) $3.60/day
- Serevent (salmeterol) $4.00/day

Anticholinergic

- Long acting once daily tiotropium (Spiriva)
- Short acting ipratropium bromide (Atrovent)
- Prolonged bronchodilator effect
- Decreased nocturnal symptoms
- Spiriva not indicated for acute exacerbations
Anticholinergics

- Spiriva MDI (tiotropium) $4.85/day
- Atrovent MDI
- Ipratropium nebulizer $1.30/day

Combination

- Combivent MDI $2.99/day
  - (ipratropium and albuterol)
- Duoneb SVN $7.74/day*
  - See albuterol and ipratropium separately
  - Generic (ipratropium and albuterol)
- Symbicort $5.45/day
  - (formoterol plus steroid)
- Advair $6.26/day
  - (salmeterol plus steroid)

Inhaled Corticosteroids

- Benefit with exacerbations
- Long term maintenance is less well established but some data suggests equal results compared with long acting anticholinergic and beta agonists
- Concern for long term side effects
  - Increased pneumonia risk, osteoporosis, immunosuppressant
Systemic Corticosteroids

- Oral or parenteral
- Maintenance use controversial because of side effects
  - Increased pneumonia risk, osteoporosis, immunosuppressant, oropharyngeal candidiasis
- Appropriate for acute exacerbations

Metered Dose Inhalers

- Dependent of user skill to achieve compliance
- Patients need proper education and re-education
- Consider a spacer
- MDI preferred over nebulizer unless compliance issues are identified

Spacer
Aminophylline

- Not well accepted therapy
- Routine use not supported
- Tight side effect profile
- Must monitor blood drug levels
- Drug-drug interactions

Anxiety and Depression

- Contribute to the cycle of dyspnea, panic and doom.
- Treatment of anxiety, panic attacks, and depression can have beneficial effects.
- Anxiolytics have minimal if any beneficial effects on dyspnea.
- Antidepressants reduce symptoms and should be considered with every patient.

Monotherapy Maintenance

- monotherapy with
  - long-acting inhaled beta-agonists, or
  - a long-acting inhaled anticholinergic, or
  - inhaled corticosteroids
- was superior to placebo or short-acting anticholinergics in reducing exacerbations
Short Acting

- Ipratropium (Atrovent), a short-acting anticholinergic, was not superior to placebo in reducing exacerbations

Combination Therapy Maintenance

- Adding an inhaled corticosteroid to a long-acting beta-agonist may reduce exacerbations compared with long-acting beta-agonist monotherapy

Therapy

- Addition of inhaled corticosteroids to long-acting bronchodilators (combination therapy) has been recommended for individuals with repeated exacerbations and an FEV1 less than 50% predicted.
Therapy

- Clinicians may consider combination inhaled therapies for symptomatic patients with COPD and FEV1 less than 60% predicted.

Combination therapy with inhaled corticosteroids and long-acting beta 2-agonists versus monotherapy using these agents was of borderline statistical significance, as assessed in 6 multigroup trials lasting 6 to 36 months (mean baseline FEV1 <50%).

Adverse Reactions

- Corticosteroids: oropharyngeal candidiasis and a moderate to severe degree of easy bruising
- Tiotropium: dry mouth
- Beta-agonists: minor cardiovascular
Acute Exacerbation

- Worsening dyspnea, phlegm, purulence, hypoxemia and hypercapnia
- Consider infection: viral and bacterial
  - Difficult to differentiate
- Antibiotics of choice
  - Doxycycline
  - Tetracycline
  - Trimethoprim-sulfamethoxazole
  - Amoxicillin
- Prophylactic antibiotics for prevention of exacerbations is not recommended

COPD: Case Presentation

- S.L. is a 55 year old veteran referred to hospice for COPD. He has been in the hospital for the last 45 days. Initially he was brought by ambulance with severe respiratory distress and required intubation on arrival to the ER. He remained in the ICU in critical condition for 30 days and was eventually extubated.
- What else do you want to know?

COPD: Case Presentation

- Presently he requires oxygen or he turns blue. He is dyspneic with any exertion even talking. He has a chronic cough with sputum production and +3 edema of his legs.
- Any comments?
COPD: Case Presentation

- He is admitted to hospice GIP and his medications and equipment is organized for discharge home.
- He wants to go home to die.
- He lives with his wife and has several adult children who can be involved with his care.

His medications include:
Bactrim, Prednisone, Ativan, Albuterol
SVN, Atrovent SVN, Lasix, Potassium, Aldactone, Digoxin, Restoril, MS Contin,
MS IR, Oxygen, Robitussin, Mucomyst,
Tylenol, Senokot, Compazine, MOM,
Synthroid, Megace, Ensure……...
COPD: Case Presentation

- The medical director visits often and makes frequent adjustments in his treatments.
- After 6 weeks the patient has no edema and is walking in the backyard with his oxygen. He finally quit smoking.
- He is eating better than ever and has increased muscle mass despite weight loss.

COPD: Case Presentation

- 90 days has passed and it is time for re-certification. Do you need any additional information?
- Does he meet re-certification criteria?
COPD: Case Presentation

- As the end of the second hospice benefit approaches the re-certification date, the hospice medical director makes a visit. The patient answers the door without his oxygen. He ambulates throughout the house and has even driven his wife to the grocery. His medications are stable. Oh-Oh!

COPD: Case Presentation

- On exam the patient is cheerful and completes conversation without dyspnea. He walks slowly but easily throughout the house. His heart is regular, lungs clear with prolonged expiration and he has no edema. Oh-Oh!

COPD: Case Presentation

- We know he still has severe lung disease. What can we do? Can we continue to keep him on service? If he goes off service what do you think will happen?
COPD: Case Presentation

- Despite the team’s disappointment he is taken off hospice service.
- One week later the wife calls hospice and notifies you that her husband had a turn for the worse. He is back in the hospital on a ventilator and unresponsive since he collapsed at home.

COPD: Case Presentation

- The family decides they want him back on hospice but he is still intubated.
- Can he be on hospice on a ventilator?

COPD: Case Presentation

- He is transferred home on a ventilator and the hospice medical director makes daily visits. The hospice program provides continuous care. The patient is kept comfortable on a morphine infusion. Gradually the ventilator settings are turned down and he dies peacefully at home with his family.