Symptomatic Management of Dyspnea

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Objectives

- Review mechanisms of dyspnea
- Review disease states that frequently cause dyspnea
- Review treatments by disease state
- Review treatments for dyspnea at end of life

Physiologic Mechanisms of Dyspnea

- Increased respiratory drive
- Impaired mechanics
- Multifactorial mechanisms

Obstructive Disorders: Small Airways

Includes Asthma, COPD, bronchiectasis

- Treatments:
  - Bronchodilators (PRN, scheduled)
  - Consider steroids, antibiotics for exacerbations
  - Pulmonary rehabilitation
- Advanced treatments
  - Lung Volume Reduction Surgery (COPD)
  - Bronchial thermoplasty (asthma)
  - Lung Transplant (COPD, bronchiectasis)
**Obstructive Disorders: Medium/Large Airways**

**Fixed/Non-variable:**
- Tracheal/bronchial stenosis
  - Bronchoscopic or surgical laser, cryotherapy, resection
  - Sometimes stent placement
- Extrinsic tracheal/bronchial compression
  - Treat lesion (chemotherapy, resection, radiation)
  - Stents generally NOT helpful

**Variable mechanical obstruction**
- Tracheobronchomalacia
  - Cough training, airway hygiene
- Vocal cord paralysis
  - Speech therapy, possibly vocal cord injections
  - Consider Tracheostomy for airway protection
- Paroxysmal Vocal Fold Dysfunction (“VCD”)
  - Speech (laryngeal control) therapy

**Intrinsic Pulmonary Restrictive Disorders**
- ILD
  - Hypersensitivity = avoidance
  - GERD = Acid suppression
  - Autoimmune = Immunosuppression
- IPF
  - Pirfenidone, Nintedanib, (N-acetylcysteine)
  - Pulmonary rehabilitation
  - Oxygen if indicated
  - Lung transplant

**Extrinsic (Nonpulmonary) Restrictive Disorders**
- Obesity/Obesity Hypoventilation Syndrome
- Diaphragm paralysis, Spinal cord injury
  - May consider diaphragm pacemaker
- Neuromuscular conditions:
  - Amyotrophic Lateral Sclerosis (ALS)
  - Myasthenia Gravis, Guillain-Barré, Botulism
  - Paraneoplastic Syndromes
  - Myositis/Myopathy/Neuropathy
### Pulmonary Hypertension: WHO Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Description</th>
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| Group I | Pulmonary Arterial Hypertension  
  - Includes Idiopathic, Familial, Drug-induced, associated with connective tissue disease, HIV, etc. |
| Group II | Left heart disease (systolic, diastolic, valvular) |
| Group III | Lung disease/Hypoxia |
| Group IV | Chronic Thromboembolic Disease |
| Group V | Other/Unclear/Multifactorial  
  - Includes sarcoidosis, metabolic diseases, chronic dialysis-associated |

### Pulmonary Hypertension: Treatments

- Treat underlying cause if present
- Oxygen if indicated
- Pulmonary rehabilitation
- Phosphodiesterase type 5 inhibitors
- Endothelin receptor antagonists
- Prostaglandins
- Soluble guanylate cyclase activators

### Pulmonary Hypertension: Treatments

- Pulmonary thromboendarterectomy (CTEPH only)
- Atrial septostomy (palliative, worsens hypoxemia)
- Lung transplant

### Pleural Effusion

- Possible causes: malignancy, parapneumonic, empyema, CHF, trauma (CVC, surgery, MVC), etc.
- Treat underlying cause if possible

- Long-term may consider:  
  - PRN thoracentesis
  - pleurodesis
  - tunneled indwelling pleural catheter (PleurX®)
Alveolar Filling Processes

- Pulmonary edema
- Aspiration
- Pneumonitis/Pneumonia
- Alveolar hemorrhage
- Massive hemoptysis
- Pulmonary Alveolar Proteinosis
- Acute Respiratory Distress Syndrome

Effects of Advanced Lung Disease

Psychosocial Effects

- Symptoms (breathlessness) causing anxiety/panic
- Depression, Anxiety, Insomnia
- Self-consciousness (cough, oxygen, slow moving)
- Dependence on others (ADLs), Social isolation
- Changes in relationships
- Desperation
- Feeling cheated of future
- Loss of purpose/self-determination

Symptoms: Depression, Anxiety

- Associated with
  - increased dyspnea
  - lower performance status
  - worse quality of life ratings
- Anxiety associated with dyspnea and related fear
- Limited evidence for effectiveness of pharmacologic management in advanced lung disease
### Symptoms: Fatigue, Anorexia

- Energy conservation
- Pulmonary rehabilitation (includes nutrition)

Consider Corticosteroids
- May suppress inflammation in asthma, COPD, ILD
- May reduce risk of exacerbations
- May improve fatigue, appetite, sense of wellbeing

### Symptoms: Cough

- Smoking cessation
- Bronchodilators
- Cough suppressants
- Mucolytics
- Physiotherapy
- Antisecretories
- Other causes of cough

### Symptoms: Dyspnea - Nonpharmacologic

- Fan to face
- Cognitive/Behavioral strategies
  - Slow breathing exercises
    - pursed lip breathing
    - diaphragmatic breathing
    - singing
  - Dyspnea self-management education + exercises
  - Distractive auditory stimuli [music]

### Symptoms: Dyspnea - Oxygen

- Hypoxia does not correlate with dyspnea severity
- Oxygen does not change dyspnea (hypoxic/non-hypoxic)
- No difference in overall dyspnea with oxygen vs air
- Oxygen complications: epistaxis, nose irritation, drowsiness

Oxygen has limited symptom benefit for most patients
### Symptoms: Dyspnea - Opioids

Given with appropriate caution,
- Safe & effective for dyspnea
- Effective for both opioid-naive and opioid-tolerant
- Do not hasten death at end of life
- Multiple administration routes studied for dyspnea
  - Oral (good evidence)
  - Parenteral (good evidence)
  - Nebulized opioids (few studies; limited evidence)
  - Transmucosal fentanyl (very limited to no evidence)

### Symptoms: Dyspnea - Benzodiazepines

- Precise/best role less clear than that of opioids
- Often used in advanced lung disease
- Can help especially if anxiety causes/is caused by dyspnea, cannot be broken with non-pharmacologic coping mechanisms
  - Possible synergy with opioids?
  - Some may respond better to benzodiazepines than to opioids

### When to consider hospice?

- “The Surprise Question”
- General indicators
  - Decline
  - Decreasing activity
  - Comorbidities
  - Weight loss
  - Admissions
  - Falls

### Hospice eligibility* for Pulmonary Disease

Severe chronic lung disease with both:
- Disabling dyspnea at rest
  - poor/no bronchodilator response
  - decreased functional capacity
- Progression of ESLD evidenced by
  - increasing ED visits/hospital admissions, or
  - increasing home visits prior to initial certification
Hospice eligibility* for Pulmonary Disease

- Supporting documentation
  - Resting hypoxemia on room air OR Hypercapnia
  - Right heart failure due to pulmonary disease
  - Unintentional weight loss over preceding 6 months
  - Resting tachycardia

Introduction to Hospice

Objectives

- Describe what hospice is
- Describe what hospice is not
- Dispelling hospice myths

Hospice IS:

- Specialized, patient-centered care for patients facing life-limiting illness, including care for
  - Physical needs (including symptom management)
  - Emotional needs
  - Social needs
  - Spiritual needs
**Hospice is ALSO:**

- Specialized care and support for the patient's family and caregivers
- A way of focusing on the patient's (and family's) quality of life

**Hospice cares for patients:**

- With many different diagnoses
- Who may die in 6 months or less
- Wherever they are

**Hospice patients:**

- Need not be DNR
- Can be hospitalized if necessary
- Can see their own physician(s)

**Hospice provides:**

- Medications for symptom management
- Home medical supplies/equipment
- Home visits by physician, nurses, aides, social workers, chaplains, volunteers, therapists
- Education to family/caregivers on how to care for patient and for themselves
- Bereavement care to surviving family & friends
References


