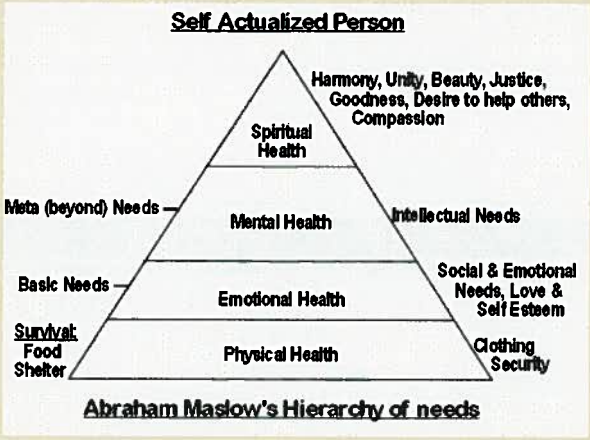
Symptom Management I

Jennifer Reidy, M.D.
Merrimack Valley Hospice

Objectives

- Review assessment & treatment of:
  - Pulmonary symptoms: dyspnea, cough
  - GI symptoms: nausea/vomiting, bowel obstruction, constipation


Self Actualized Person
Harmony, Unity, Beauty, Justice, Goodness, Desire to help others, Compassion
Spiritual Health
Meta (beyond) Needs
Mental Health
Intellectual Needs
Basic Needs
Social & Emotional Needs, Love & Self Esteem
Emotional Health
Survival: Food Shelter
Physical Health
Clothing Security
Abraham Maslow's Hierarchy of needs

Pulmonary symptoms: dyspnea

Case: Alice

- 71 yo woman with end-stage pulmonary fibrosis
- Extremely short of breath at rest
- Oxygen, steroid dependent
- Right-sided heart failure
- Daughter, son care for her; doesn't leave her house

How do we assess Alice's shortness of breath?

What is causing it?

How do we treat it?

Breathlessness (dyspnea) . . .

- May be described as
  - shortness of breath
  - a smothering feeling
  - inability to get enough air
  - suffocation

. . . Breathlessness (dyspnea)

- The only reliable measure is patient self-report
- Respiratory rate, pO_2, blood gas determinations DO NOT correlate with the feeling of breathlessness
- Prevalence in the life-threateningly ill: 21 – 74%

Pathophysiology . . .

- Respiratory center (medulla and pons)
  - Coordinates diaphragm, intercostal m, accessory m of respiration
  - Sensory input from
  - Chemoreceptors (pO_2, pCO_2)
  - Mechanoreceptors (stretch, irritation)

. . . Pathophysiology

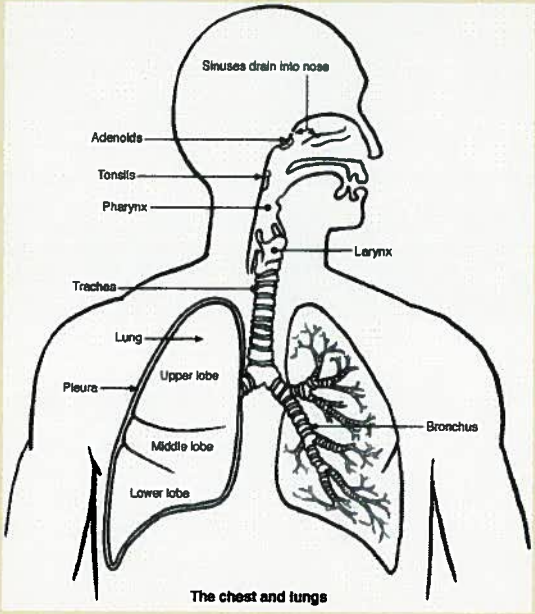
- Work of breathing
  - Resistance (COPD, obstruction)
  - Weakened muscles (cachexia)
- Chemical
  - Hypoxemia, hypercarbia (small role in cancer)
- Neuromechanical dissociation
  - Mismatch between brain and sensory feedback

Assessment

- What makes your breathlessness worse?
- What makes it better?
- How often does it occur? How long does it last?
- How severe is it?
- Do you have:
  - a cough?
  - a fever?
  - chest pain?
  - swelling in your legs or abdomen?
- Explore life stresses, worries, fears

Physical exam

- Vital signs
- Appearance
  - Color, expression, posture, use of accessory muscles, ability to speak
- Heart: rate, rhythm, murmurs, gallops
- Abdomen: size, masses, fluid
- Extremities: edema, perfusion
- Lung exam:
  - Stridor: upper airway obstruction (trachea)
  - Rhonchi: upper airway obstruction (large bronchi)
  - Wheezes: lower airway obstruction (bronchioles)
  - Crackles: fluid in lower airway (alveoli)
  - Absent breath sounds: pleural effusion, PTX



The chest and lungs

Causes of breathlessness

- Anxiety
- Airway obstruction
- Bronchospasm
- Hypoxemia
- Pleural effusion
- Pneumonia
- Pulmonary edema
- Pulmonary embolism
- Thick secretions
- Anemia
- Metabolic
- Family / financial / legal / spiritual / practical issues

Treatment of dyspnea

- Treat the underlying cause!
- Symptomatic management
  - oxygen
  - opioids
  - bronchodilators
  - anxiolytics
  - nonpharmacologic interventions

Oxygen

- Pulse oximetry not always helpful
- Potent symbol of medical care
- Expensive
- Fan may do just as well

Opioids

- Relief NOT RELATED to respiratory rate
- No ethical or professional barriers
  - Growing evidence base –> opioids are standard of care for palliation of dyspnea
- Small doses
- Central and peripheral action

Anxiolytics

- Safe in combination with opioids
  - lorazepam
    - 0.5-2 mg po q 1 h prn until settled
    - then dose routinely q 4–6 h to keep settled

Nonpharmacologic interventions . . .

- Reassure, work to manage anxiety
- Behavioral approaches, eg, breathing techniques, relaxation, distraction, hypnosis
- Physical therapy → breath & energy conservation

Nonpharmacologic interventions . . .

- Limit number of people in the room
- Open window
- Eliminate environmental irritants
- Keep line of sight clear to outside
- Reduce the room temperature
- Avoid chilling the patient

. . . Nonpharmacologic interventions

- Introduce humidity
- Reposition
  - elevate the head of the bed
  - move patient to one side or other
- Educate, support the family

Follow-up: Alice

- Short-acting morphine converted to MSContin (with short-acting morphine prn breakthrough)
- O2, albuterol, ipratropium (Atrovent)
- Oral prednisone, diuretics
- PT consult
- IDT support for emotional, spiritual pain

Pulmonary symptoms: cough

Case: Patricia

- 74 yo woman with lung cancer
- Complains of cough for several days
- Having trouble with sleep, chest discomfort with cough

Assessment

- History:
  - Acute or chronic?
  - Sputum?
  - Fever?
  - Shortness of breath?
  - Worse at night?
  - New medications?
- Physical exam:
  - Appearance
  - HEENT exam
  - Lung exam
  - Palpate chest wall for tenderness

Causes of cough

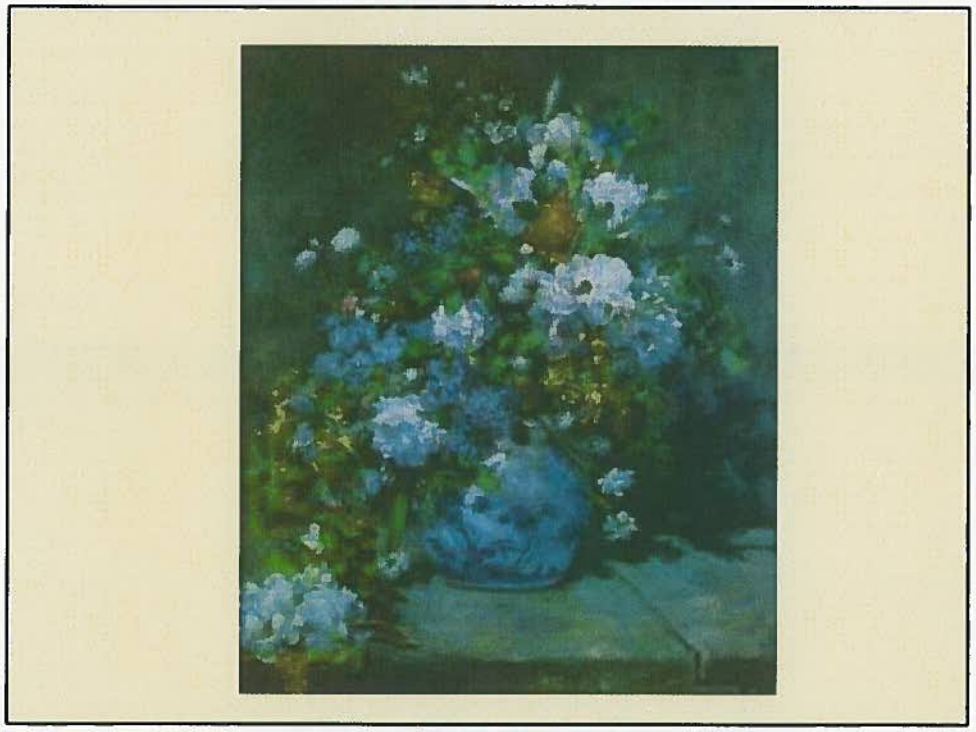
- Infection
- Bronchospasm
- Chronic airway irritation (smoking, pollutants)
- Tumor mass
- Dysphagia, aspiration
- GERD
- Radiation, chemo side effect
- Medication side effect (ACEI)

Treatment of cough

- Treat underlying cause, if possible
- Centrally-acting antitussives:
  - Codeine
  - Dextromethorphan
  - Hydrocodone
- Peripherally-acting antitussives:
  - Benzonatate (Tessalon)
- Other:
  - Nebulized lidocaine

Secretions

- Thick: humidified O2, nebulized saline, guaifenesin, acetylcysteine (Mucomyst)
- Thin: scopolamine, hyoscyamine (Levsin), glycopyrralate (Robinol)



GI symptoms: nausea & vomiting

Case: Celia

- 59 yo woman with small-cell lung ca
- Intellectual & social activist
- Slow then rapid decline → extremely anxious & fearful
  - Second marriage; recovering alcoholic
- Nausea, chest pain, abdominal pain, shortness of breath → all severe

How do you assess Celia's nausea?

What is causing it?

How will you treat it?

Assessment

- Review hospice diagnosis, comorbidities
- When did your nausea begin?
- What makes it worse/better?
  - Related to food, position?
- What other symptoms do you have with it?
- Sick contacts?
- What medications have you tried?
- Have you vomited?
  - How often?
  - Blood (bright red or coffee grounds) or bile?
- Are you moving your bowels?
- Explore life stressors, family conflicts, fear/worry

Physical exam

- Vital signs
- Appearance
  - Color, signs of distress
- HEENT
- Heart & lungs
- Skin turgor
- Abdomen
  - Bowel sounds, masses, organomegaly, distention, ascites
- Rectal exam
  - If suspect constipation
- Extremities
  - Edema, perfusion

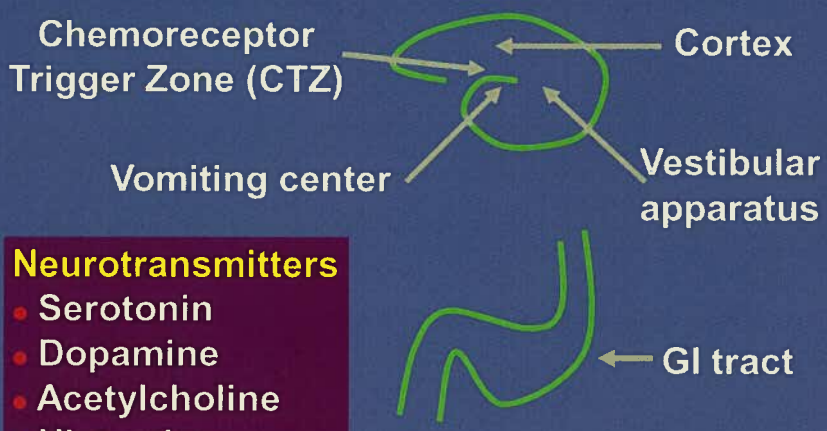
Nausea / vomiting

- Nausea
  - subjective sensation
  - stimulation
    - gastrointestinal lining, CTZ, vestibular apparatus, cerebral cortex
- Vomiting
  - neuromuscular reflex

Causes of nausea / vomiting

- Metastases
- Meningeal irritation
- Movement
- Mental anxiety
- Medications
- Mucosal irritation
- Mechanical obstruction
- Motility
- Metabolic
- Microbes
- Myocardial

Pathophysiology of nausea / vomiting



Neurotransmitters

- Serotonin
- Dopamine
- Acetylcholine
- Histamine

Management

- Dopamine antagonists
- Antihistamines
- Anticholinergics
- Serotonin antagonists
- Neurokinin antagonists
- Prokinetic agents
- Antacids
- Cytoprotective agents
- Other medications

Gralla R, et al. *J Clin Oncol*. 1999.

Other treatments

- Dexamethasone (Decadron)
- Dronabinol (Marinol)
- Lorazepam (Ativan)

- Octreotide
- IV fluids
- Bowel decompression

Follow-up: Celia

- Nausea due to anxiety, pain, morphine side effect (?), poor GI motility
- Morphine d/c'ed and started on hydromorphone PCA
- Dexamethasone 4 mg po qd for nausea, pain, bronchospasm
- Clonazepam 0.5-1 mg q 12 hours
- Odansetron (Zofran) 8 mg q 4 hrs prn
- Metoclopramide (Reglan) 10 mg q 4 hrs prn

Bowel obstruction

Pathophysiology . . .

- Intraluminal mass
- Direct infiltration
- External compression
- Carcinomatosis
- Adhesions
- Other

. . . Pathophysiology

- 2 liters/day orally
- 8 liters/day gastric/intestinal secretion
- Obstruction causes accumulation
- Peristalsis causes distention, pain, nausea, and vomiting

Assessment

- Symptoms
  - Continuous distension pain 92%
  - Intestinal colic 72-76%
  - Nausea/vomiting 68-100%
- Abdominal radiograph
  - Dilated loops, air-fluid levels
- CT scan
  - Staging, treatment planning

Differentiating small vs. large bowel obstruction

S/Sx	Small-high	Small-low	Large
Onset	Acute, severe	Acute, severe	Progressive
Abdominal pain	Variable	Variable	Mild, steady
Bowel sounds	Diminished	Hyperactive, diminished	Hyperactive, diminished
Bowel movement	Short-term	Short-term	Constipation
Vomiting	Severe	Mild/moderate	None, severe

Management . . . Medical

- Opioids
  - Morphine - 89% control
- Antiemetics
  - Dopamine antagonists
- Antisecretory
  - Scopolamine, glycopyrralate, octreotide
- Steroids
  - Dexamethasone

. . . Management Surgical

- Surgical evaluation
- Standard
  - Intravenous fluids
  - Nasogastric tube - intermittent suction
- Inoperable
  - Stent placement
  - Venting gastrostomy

GI symptoms: constipation

Case: every patient you have!

- Almost all of our patients have or will have constipation.
  - Why??

Constipation

- Medications
  - opioids
  - calcium-channel blockers
  - anticholinergic
- Decreased motility
- Ileus
- Mechanical obstruction
- Metabolic abnormalities
- Spinal cord compression
- Dehydration
- Autonomic dysfunction
- Malignancy

Management of constipation

- General measures
  - establish what is "normal"
  - regular toileting
  - gastrocolic reflex
- Specific measures
  - stimulants
  - osmotics
  - detergents
  - lubricants
  - large volume enemas

Stimulant laxatives

- Prune juice
- Senna
- Casanthranol
- Bisacodyl (Dulcolax)

Osmotic laxatives

- Lactulose or sorbitol
- Milk of magnesia (other Mg salts)
- Magnesium citrate

Detergent laxatives
(stool softeners)

- Sodium docusate (Colace)
- Calcium docusate
- Phosphosoda enema (Fleet's)

Prokinetic agents

- Metoclopramide

Lubricant stimulants

- Glycerin suppositories
- Oils
  - mineral
  - peanut

Large-volume enemas

- Warm water
- Soap suds → out of favor because can damage mucosa with severe effects
- "High enema" via Foley catheter for high impaction

Constipation from opioids . . .

- Occurs with all opioids
- Pharmacologic tolerance developed slowly, or not at all
- Dietary interventions alone usually not sufficient
- Avoid bulk-forming agents in debilitated patients

. . . Constipation from opioids

- Combination stimulant / softeners are useful first-line medications
  - casanthranol + docusate sodium
  - senna + docusate sodium
- Prokinetic agents
- Methylnaltrexone, alvimopam
  - Opioid antagonists in GI tract only; no affect on pain management