Management of Non-Pain Symptoms

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Palliation of Dyspnea
Dyspnea: ATS Definition

• “a subjective experience of breathing discomfort that consists of qualitatively distinct sensations that vary in intensity. The experience derives from interaction among multiple physiologic, psychological, social, and environmental factors, and may induce secondary physiologic and behavioral responses.”
Advanced Chronic Obstructive Pulmonary Disease: Innovative Approaches to Palliation

• Rocker et al. Journal of Palliative Medicine
• 2007;10:783-797
COPD

• 12 million in US in 2001
• 24 million in US with impaired lung function
• 4th leading cause of death
• smoking
Challenges for palliative care

• Unpredictable disease trajectory
• Episodic exacerbations/incomplete recovery
• Patients/caregivers unaware disease is terminal
• More likely to die in ICU
• More likely to die with greater symptoms
Increased Risk of Death in Next Year

- FEV1 < 30% predicted
- Increasing dependency on caregivers
- Activity: a few steps without rest
- Depression
- No spouse
- Recurrent hospitalization
- Comorbidities
Interventions for Alleviating Cancer-Related Dyspnea: A Systematic Review

- Ben-Ahron, I et al. Journal of Clinical Oncology
- 2008;26:2396-2404
Dyspnea

- > 50% of terminally ill CA pts
- Increases as function declines
- Neural pathways still not well understood
Results

- 18 trials included in meta analysis
- Good evidence for morphine to relieve dyspnea, with minimal side effects
- No evidence that oxygen was beneficial except in hypoxemic patients
- One trial showed added benefit by adding midazolam to morphine
- Nursing led nonpharmacologic interventions, some effect
Clinical Utility

• Morphine remains the first line drug for dyspnea in Cancer patients
• It is both effective and well tolerated
• Oxygen offers little benefit in the absence of hypoxemia
Dyspnea

- Fan
- Bronchodilators
- Oxygen
- Opiates
Opioids and Dyspnea

• May see effect with low doses 1 mg q 4 h
• Oral and parenteral not nebulized
• No effect on ABGs
Mechanism of Action

• Decreased central perception of dyspnea
• Decreased anxiety
• Decreased sensitivity to hypercapnea
• Decreased O2 consumption
• Improved cardiovascular function
Midazolam as Adjunct therapy to Morphine in the Alleviation of Severe Dyspnea Perception in Patients with Advanced Cancer

Results

• No change in oxygen saturation at 24, 48 hrs and baseline

• At 48 hrs:
  • Mo 69% reported relief, 12.5% no relief
  • Mi 46% reported relief, 26% no relief
  • MM 92% reported relief, 4% no relief
  • Less breakthrough med in MM
  • Side effects, (somnolence) greatest in Mo
  • No difference in deaths
Implications

• Anxiety may be an appropriate target for Rx in patients with dyspnea
• Benzodiazepines may add to dyspnea relief in patients with advanced cancer
Oxygen for Relief of Dyspnoea in Mildly or Non-hypoxaemic Patients with Cancer: a Systematic Review and Meta-analysis

Results

• 5 studies were blinded, randomized and controlled crossover trials
• Cancer patients
• Oxygen was not effective in controlling dyspnea
Oxygen

- $250 per month
- Fall risk
- O2 sat
- 48 hour trial?
Pulmonary Rehab

• Documented benefit but less evidence for end-stage patients
Noninvasive Ventilation

- Relieve dyspnea
- Buy time
- Can be withdrawn when it does not meet patient’s goals
Cough Suppressants

- Central: i.e., opiates; good evidence for efficacy
- Peripheral: i.e., benzonatate (Tessalon); good evidence for efficacy
Palliation of GI Symptoms
Nausea

- Unpleasant sensation
- Precedes vomiting
Vomiting

• Forceful contraction diaphragm, abdominal muscles

• Expulsion of stomach contents
Retching

- Forceful contraction diaphragm, abdominal muscles

- Without expulsion of stomach contents
Advanced Cancer

- 40-70% report nausea or vomiting
- Distressing
- Results from disease or treatment
- Also in CHF, AIDS
Vomiting

• Efferent pathways
  – Phrenic nerve to diaphragm
  – Spinal nerves to intercostal and abdominal muscles
  – Vagus nerve to larynx, pharynx, esophagus, stomach
Vomiting

• Stomach plays a minor role
  – Pyrlosus contracts
  – Fundus and GE sphincter relax
• Diaphragm, abdominal wall muscles contract
• Soft palate elevates
• Glottis closes, respiration inhibited
Vomiting Center

- Medulla
- Input from:
  - Chemoreceptor trigger zone (CTZ)
  - GI tract afferents
  - Vestibular system
  - Higher cortical centers
Chemoreceptor trigger zone

- Floor of fourth ventricle
- Little blood brain barrier
- Most medications act here
Receptors

• Vomiting center
  – Histamine type 1
  – Acetylcholine (muscarinic)
  – 5 HT2

• CTZ
  – Dopamine type 2
  – Serotonin (5 HT3)
  – Neurokinin type 1

• Vestibular
  – Histamine type 1
  – Acetylcholine (muscarinic)

• Gut
  – Serotonin (5 HT3)
  – Stretch receptors
History

• Medication use (chemo, opioids, digoxin, d/c of steroids)
• Bowel function
• Must rule out constipation
• Provocation
  – Movement?
• N, N+V, V only
Physical examination

• Abdomen
  – Signs of obstruction
• Rectal
  – Impaction
• Eyes
  – Papilledema
X-Ray

- Plain film
  - High impaction
Lab

• When appropriate
  – Dig toxicity
  – Uremia
  – Hypercalcemia
Medications/metabolic

• Act at CTZ
• Treat with D-2 receptor antagonist
  – Haloperidol
  – Prochlorperazine
  – Promethazine
Also 5 HT3 agent
• Chemo acts at 5 HT3 receptors and NK1
Gastric stasis

• Causes
  – Medications, ascites, hepatomegaly, ulcers, gastritis

• Treat with agents to increase motility
  – Metochlopramide
Serosal distention

- Liver metastases
- Treatment
  - Steroids to reduce edema
Increased intracranial pressure

• Metastases
• Bleeding
• Projectile vomiting
  – Not a sensitive or specific indicator
• Treatment
  – Steroids
Management of Nausea

- Start with D2 antagonist
- Treat GERD if needed
- Add second agent, don’t stop first
- Antihistamine/Anticholinergic
- 5HT3 antagonist (mirtazapine)
- adjuvants
Route

- Subcutaneous
- Rectal
- Oral
- **NOT Transdermal (gels)**
Adjuvants

• Steroids (esp with chemo, bowel obstruction, increased ICP)
• Cannabinoids
• Benzodiazepines
• H 2 blockers
• IV Fluids
Non-pharmacologic Rx

• Reduce Odors
• Cool carbonated drinks
• Relaxation techniques
Bowel Obstruction

- Ovarian Cancer
- Colon Cancer
- Adhesions
- Motility Disorder (pseudo-obstruction)
Bowel Obstruction

- High mortality with surgery unless early in illness
- Venting gastrostomy
Bowel Obstruction

- Colic
- Continuous pain
- Nausea and vomiting
Colic

- Anticholinergic
  Scopolamine (acts centrally so decreases nausea but increases side effects)
Pain

- Opiates
Nausea and Vomiting

• Realistic goals
• Reduce Secretions
• Anti-emetics
Reduce Secretions

- Anticholinergics
  - Scopolamine
  - Hycocyamine
- Octreotide
Anti-emetics

5-HT3 antagonists in ovarian CA
Antihistamines
Anticholinergics
Dopamine antagonists
Steroids
Hiccups

- Gastric Distension
- Diaphragmatic irritation
- Uremia
- Infection
- CNS Tumor
Treatment

- Pharyngeal Stimulation
- Baclofen 5 mg bid to 20 mg tid
- Phenothiazines
- Haloperidol
- Benzodiazepines