PALLIATIVE CARE FOR BODY, MIND, AND SPIRIT

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Plenary II:
Palliative Care: Symptom Management

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DISCLAIMER

- This presentation is free of all commercial bias.
- I have no financial relationships or conflicts of interest to disclose.
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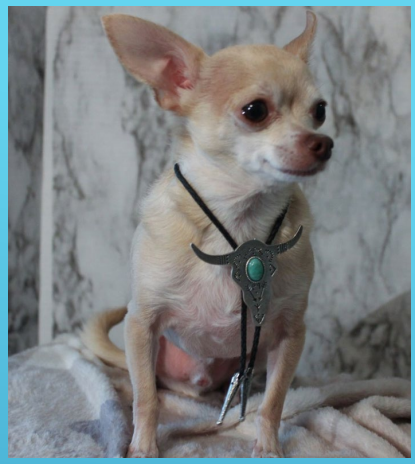
OBJECTIVES

- At the conclusion of this session, the participants will be able to:
- 1. List the four common mechanisms involved in nausea and vomiting and list and discuss pharmacologic management of each mechanism as well as rational anti-emetic combination therapy.
- 2. List and discuss etiologies of constipation and partial and complete bowel obstruction including pharmacologic management and more intense and invasive management as required.
- 3. Describe and discuss the management of dyspnea including non-pharmacologic interventions and pharmacologic treatment.

PALLIATIVE CARE: SYMPTOMS

- Nausea and Vomiting
- Constipation
- Bowel Ostruction
- Dyspnea



NAUSEA/VOMITING…

Definition

- Nausea is an unpleasant subjective sensation of being about to vomit
- Vomiting is the reflex expulsion of gastric contents through the mouth

- A 65-year-old female presents with significant nausea. She notes she has had it for 3 weeks after going to a New Years Party and drinking several screwdrivers. She immediately had epigastric burning and has not improved since that time.
- Now, every time she eats, she feels nauseous.
- What information would you ask?

Medicinetoday.com

ASSESSMENT

Onset, When?
Acute versus chronic?
Intermittent or constant?
Associated with pain or emotional stress?
Associated with sights or smells?
Associated with motion? Vestibular?
Eating patterns changed?
GERD/ Ulcers/ Gastritis?
Bowel patterns?
Medications?
Headache? Brain Tumor of Cortex? Increased cerebral pressure
Recent infections?

…NAUSEA/VOMITING

Patients find the following distressing:

- awareness of nausea
- inability to keep food or fluids down
- acid and bitter tastes
- unpleasant smells or images of vomitus

PATHOPHYSIOLOGY…

Nausea

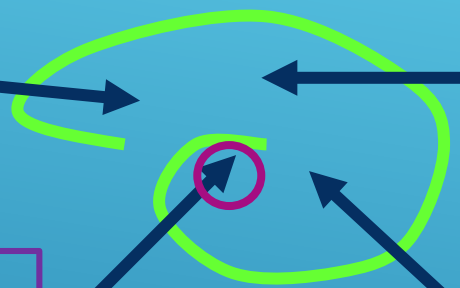
- Subjective sensation (easily learned)
  - Stimulation:

    gastrointestinal lining, CTZ, vestibular apparatus, cerebral cortex

Vomiting

- Neuromuscular reflex

Pathophysiology



Chemoreceptor Trigger Zone (CTZ)

Cortex

Vomiting center

Vestibular apparatus

- **Neurotransmitters**
  - Neurokinin
  - Serotonin
  - Dopamine
  - Acetylcholine
  - Histamine

GI tract

MANAGEMENT

- **Dopamine Antagonists**
- **Serotonin Antagonists**
- **Antihistamines**
- **Anticholinergics**

Prokinetic Agents

Antacids

Cytoprotective Agents

Other medications

MEDICATIONS…

Dopamine antagonists	Histamine antagonists
Haloperidol (Haldol®)	Diphenhydramine(Benadryl®)
Metoclopramide (Reglan®)	Meclizine (Antivert®)
Prochlorperazine (Phenergan®)	Hydroxyzine(Atarax®, Vistaril®)

…MEDICATIONS…

Acetylcholine antagonists

- Scopolamine

Serotonin antagonists

- Granisetron (Sustol®)
- Ondansetron (Zofran®)

…OTHER MEDICATIONS

Prokinetic agents

- Metoclopramide (Reglan ®)

Antacids

- H2 receptor antagonists
- Proton pump inhibitors

Dexamethasone 6-20 mg PO daily (Steroid- high dose)

Tetrahydrocannabinol 2.5-5 mg PO tid (THC)

Lorazepam 0.5-2 mg PO q 4-6 h (Benzodiazepine)

CHEMOTHERAPY-INDUCED NAUSEA

Acute

- < 24 hours
- chemoreceptor trigger zone
- serotonin release in the gut

Delayed

- 24 hours (may be days)
- unclear mechanism

Rational Combination Anti-emetic Therapy

Controls all four mechanisms:

Benadryl ® (Diphenhydramine) : Vestibular Apparatus

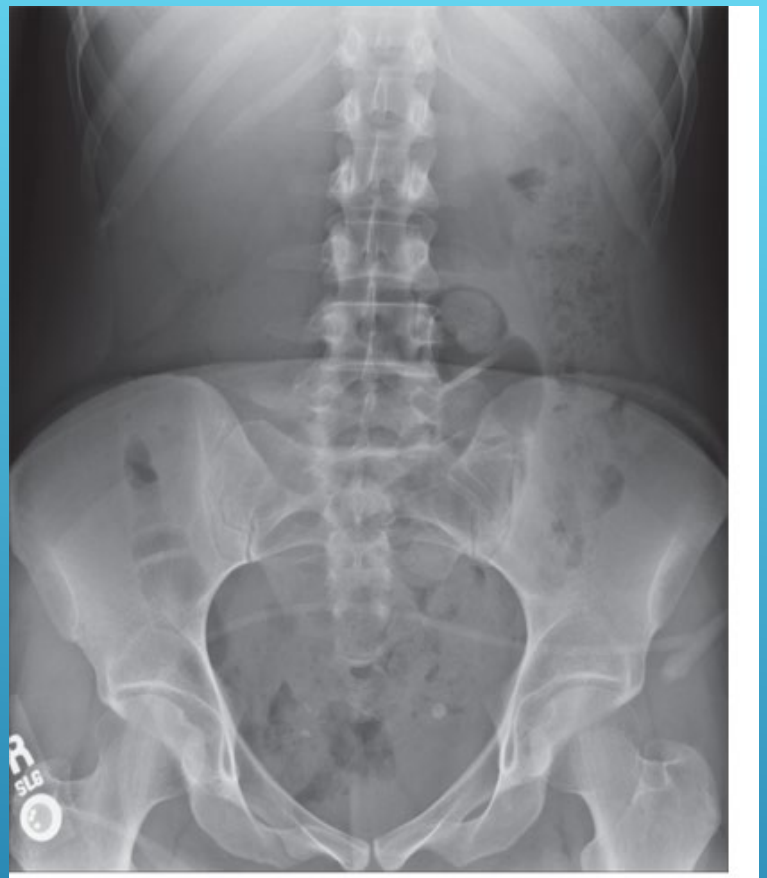
Reglan ® (Metoclopramide) : Prokinetic,
CTZ (dopamine antagonist)

Dexamethasone : Cortical edema, unknown

Known as the BRD or "Bird" combination

A 45-YEAR-OLD WOMAN PRESENTS TO YOU IN YOUR OFFICE WITH A PROBLEM OF CONSTIPATION THAT HAS BEEN OFF AND ON FOR YEARS. SHE ONLY HAS ONE OR TWO HARD BOWEL MOVEMENTS PER WEEK AND SHE STRAINS WITH EVERY MOVEMENT. THIS IS PAINFUL AND HAS CAUSED FREQUENT BLEEDING FROM HEMORRHOIDS. SHE TELLS YOU SHE HAS TRIED EVERYTHING FOR THIS SHE CAN THINK OF, HAS SEEN MANY PHYSICIANS FOR THIS PROBLEM FOR YEARS AND STILL HAS NO RELIEF.

CONSTIPATION



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Source: J.B. Halter, J.G. Ouslander, S. Studenski, K.P. High, S. Asthana, M.A. Supiano, C. Ritchie, W.R. Hazzard, N.F. Woolard: Hazzard's Geriatric Medicine and Gerontology, Seventh Edition, www.accessmedicine.com

Plain radiographs of patients with constipation. A. Colonic or rectal fecal retention associated with air in rectum and cecum.

Citation: Constipation, Halter JB, Ouslander JG, Studenski S, High KP, Asthana S, Supiano MA, Ritchie C. *Hazzard's Geriatric Medicine and Gerontology, 7e;* 2017. Available at: https://accessmedicine.mhmedical.com/ViewLarge.aspx?figid=144526934&gbosContainerID=0&gbosid=0&groupID=0&sectionId=144526800&multimediaId=undefined Accessed: July 11, 2020

HOW MANY BM'S PER WEEK IS CONSTIPATION

Fewer than 3 BM / week

Straining

Hard stool

Sensation of:

- incomplete evacuation
- anorectal obstruction

12 weeks duration ≥ 2 symptoms

- Specifically ask about bowel function
- Establish what is normal for patient

- Your Assessment should include a Differential Diagnosis.

- What is your common causes you would consider for an adult with constipation?

PATHOPHYSIOLOGY

Medications that Cause Constipation:

- opioids
- calcium-channel blockers
- anticholinergics

Decreased motility

Ileus

Mechanical obstruction

- **Metabolic abnormalities**
- **Spinal cord compression**
- **Dehydration**
- **Autonomic dysfunction**
- **Malignancy- pressing on nn of spinal cord or stricture**
- **Functional Bowel**

MANAGEMENT OF CONSTIPATION

General measures

regular toileting

Activity

gastrocolic reflex

increased fiber/ fluid

Specific measures

softeners

stimulants

osmotics

lubricants

large volume enemas

STOOL SOFTENERS (DETERGENT LAXATIVES)

Sodium docusate (Colace)

Calcium docusate

Phospho-soda enema PRN

STIMULANT LAXATIVES

Prune juice

Senna

Bisacodyl (Dulcolax)

OSMOTIC AGENTS

Lactulose or sorbitol

Milk of magnesia (other Mg salts)

Magnesium citrate

Polyethylene glycol

SECONDARY BENEFITS OF LACTULOSE

Reduces bacteria in the gut that increase ammonia

Important in patients with cirrhosis to reduce ammonia accumulation leading to hepatic encephalopathy

Also causes diarrhea!

LUBRICANTS/ ENEMAS

Glycerin suppositories

Phosphate enema

Tap water enema

Mineral Oil

A 35-YEAR-OLD MAN IS ONE WEEK POST-OP FROM A SPINAL LAMINECTOMY FOR A HERNIATED LUMBAR VERTERBRAL DISC. HE HAS BEEN CONFINED TO BED AND WITH VERY RESTRICTED ACTIVITY DURING HIS POST-OP COURSE. HE IS HAVING DIFFICULTY WITH BOWEL MOVEMENTS AND ONLY HAS TWO IN THE PAST WEEK WHICH HAVE BEEN VERY HARD AND DIFFICULT TO PAST. HE IS CURRENTLY NOT ON A BOWEL REGIMEN AND HAS BEEN GIVEN INTRAVENOUS MORPHINE BY A PCA PUMP WHICH HE ACTIVATES EVERY 4 HOURS FOR HIS PAIN.

What is the etiology of this patient's constipation?

What post-operative condition is he at risk for?

What should be done about it?

OPIOID CONSTIPATION…

Occurs with all opioids

Pharmacological tolerance develops slowly, or not at all

Dietary interventions alone usually not sufficient

Avoid bulk-forming agents in debilitated patients

OPIOID INDUCED CONSTIPATION

Combination stimulant/softeners are useful first-line medications

- senna + docusate sodium

Prokinetic agents

Opioid antagonists

OPIOID INDUCED CONSTIPATION (OIC)

- **Opioids slow down peristalsis. Opioid antagonists most effective but costly.**

- **Naloxone was first used, but less effective**

Methylnaltrexone (Relistor ®) (IV or SC) immediate effect

Naldemedine (Symproic ®)

Binds Mu Receptor in gut

A 35-YEAR-OLD WOMAN WITH INTRA-ABDOMINAL METASTATIC SPREAD FROM AN OVARIAN CANCER HAS BEEN EXPERIENCING MORE ABDOMINAL BLOATING AND CONSTIPATION FOR THE PAST TWO WEEKS. THIS HAS BEEN ACCOMPANIED BY INCREASED NAUSEA AND VOMITING TO THE POINT TO WHERE SHE IS NOW UNABLE TO KEEP EVEN CLEAR LIQUIDS DOWN. HER ABDOMINAL PAIN HAS ALSO BEEN INCREASING.

HOW WOULD YOU EVALUATE THIS CASE?

WHAT MIGHT YOU GIVE FOR NAUSEA?

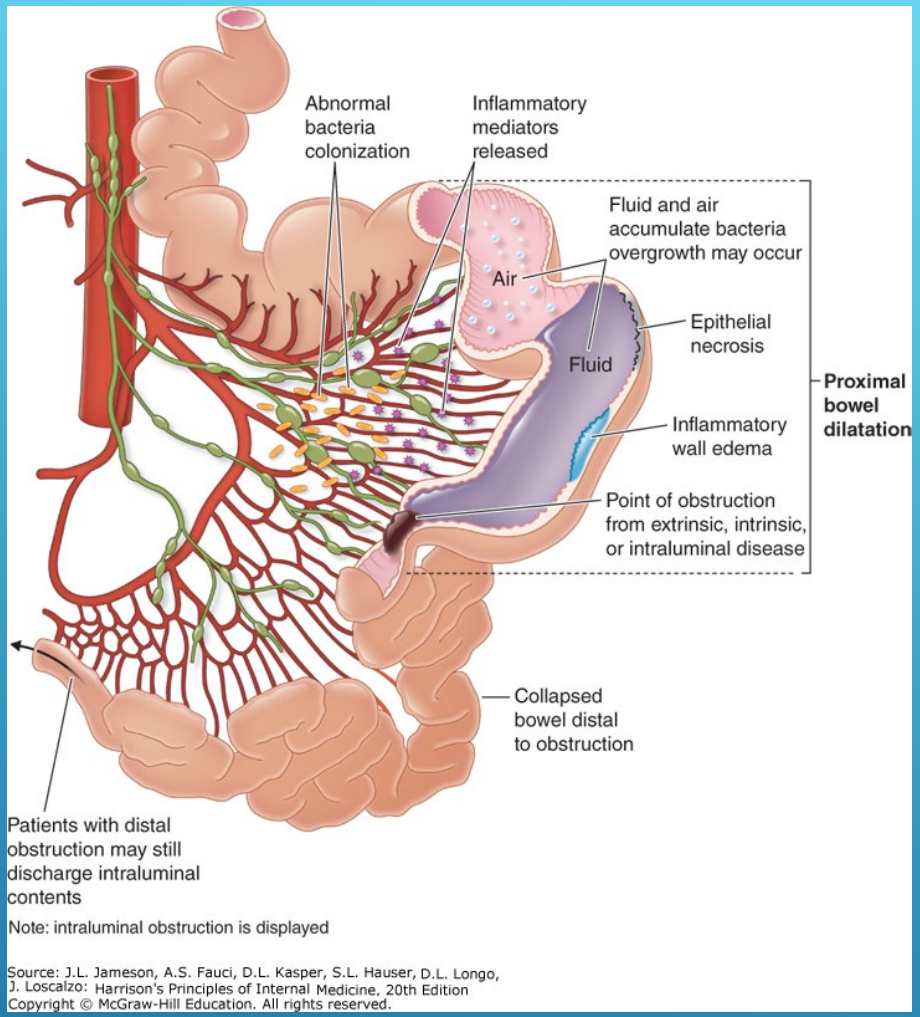
Epidemiology

Prevalence

- **range from 6% (ovarian cancer) to 48% (colorectal cancer)**

Prognosis – poor if inoperable

…BOWEL OBSTRUCTION



Pathophysiologic changes of small-bowel obstruction.

ASSESSMENT

Symptoms

- continuous distension pain 92%
- intestinal colic 72-76%
- nausea/vomiting 68-100%

Abdominal radiograph (AAS or KUB)

- dilated loops, air-fluid levels

CT scan

- staging, treatment planning

SURGICAL MANAGEMENT

Surgical evaluation

Standard

- intravenous fluids
- nasogastric tube - intermittent suction

She was noted to be Inoperable →

- stent placement

PHARMACOLOGICAL MANAGEMENT

Analgesics

- Opioids

Antiemetics

- Odansitron (Zofran®)
- Haloperidol/ Droperidol (used less than the past)

Steroids

- Dexamethasone

ANTISECRETORY AGENTS

Drug	Dose	Notes
Octreotide	10 mcg/h SQ/IV cont. infusion or 100 mcg SQ q 8 h	Minimal adverse effects; titrate daily
Scopolamine (hyoscine hydrobromide)	10 mcg/h SQ/IV cont. infusion or 0.1 mg SQ q 6 h	Anticholinergic effects may be dose-limiting; titrate daily
Glycopyrrolate	0.2 to 0.4 mg SQ q 2 to 4 h; titrate	Anticholinergic effects possible

ANTICHOLINERGICS

Antispasmodic and antisecretory

Scopolamine

10 to100 mcg/h SC/IV

0.1 mg sc q 6 h and titrate

Glycopyrrolate

0.2-0.4 mg sc q 2 to 4 h and titrate

WHAT ABOUT OCTREOTIDE…

Polypeptide analog of somatostatin

- **serum half-life = 2 h**

Relieves symptoms of obstruction

…OCTREOTIDE

- Octreotide 10 mcg/h continuous infusion
- Titrate to complete control of N/V
- If NG tube in place, clamp when volume diminishes to 100 cc and remove if no N/V
- Try convert to intermittent sc
- Continue until death

SUMMARY

Use comprehensive assessment and pathophysiology-based therapy to treat the cause.

Dyspnea

CASE

- A 65 year old female presents with complaints of feeling winded with walking across the room which has changed over the past few months. She feels frightened by the new development.
- She was previously able to walk across her house slowly without stopping for being short of breath.

CASE (CONTINUED)

- The patient was raised in West Virginia and exposed to smokers, pollution and worked as a secretary in a coal mine for many years delivering pay checks below ground. She never smoked and has not been told she has a heart condition.

WHAT IS DYSPNEA?

- May be described in many ways:
  - Unable to breathe
  - Unable to take a deep breath
  - Shortness of breath
  - Short of wind
  - Smothered feeling

… ASSESSMENT

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

CASE (CONTINUED)

- On exam the patient has decreased breath sounds and poor air movement.
- She intermittently coughs with conversation- non productive (present for years).
- She is not wheezing and is not having fevers, chills or night sweats.
- No recent illness.

WHAT WOULD YOU ALSO EXAMINE?

WHAT WOULD YOU ALSO EXAMINE?

- Cardiac exam- Regular Rate/ Rhythm. Normal S1 and S2, No murmur,No S3/ S4
- JVP- is 7 cm at 35 degrees.
- PMI is at 5th intercostal space at mid clavicular line.

CAUSES

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

PREVALENCE/ PROGNOSIS

- Prevalence of dyspnea 21 – 90% in patients with life-threatening illness
- Prognosis < 6 months when no underlying treatment is initiated for malignancy

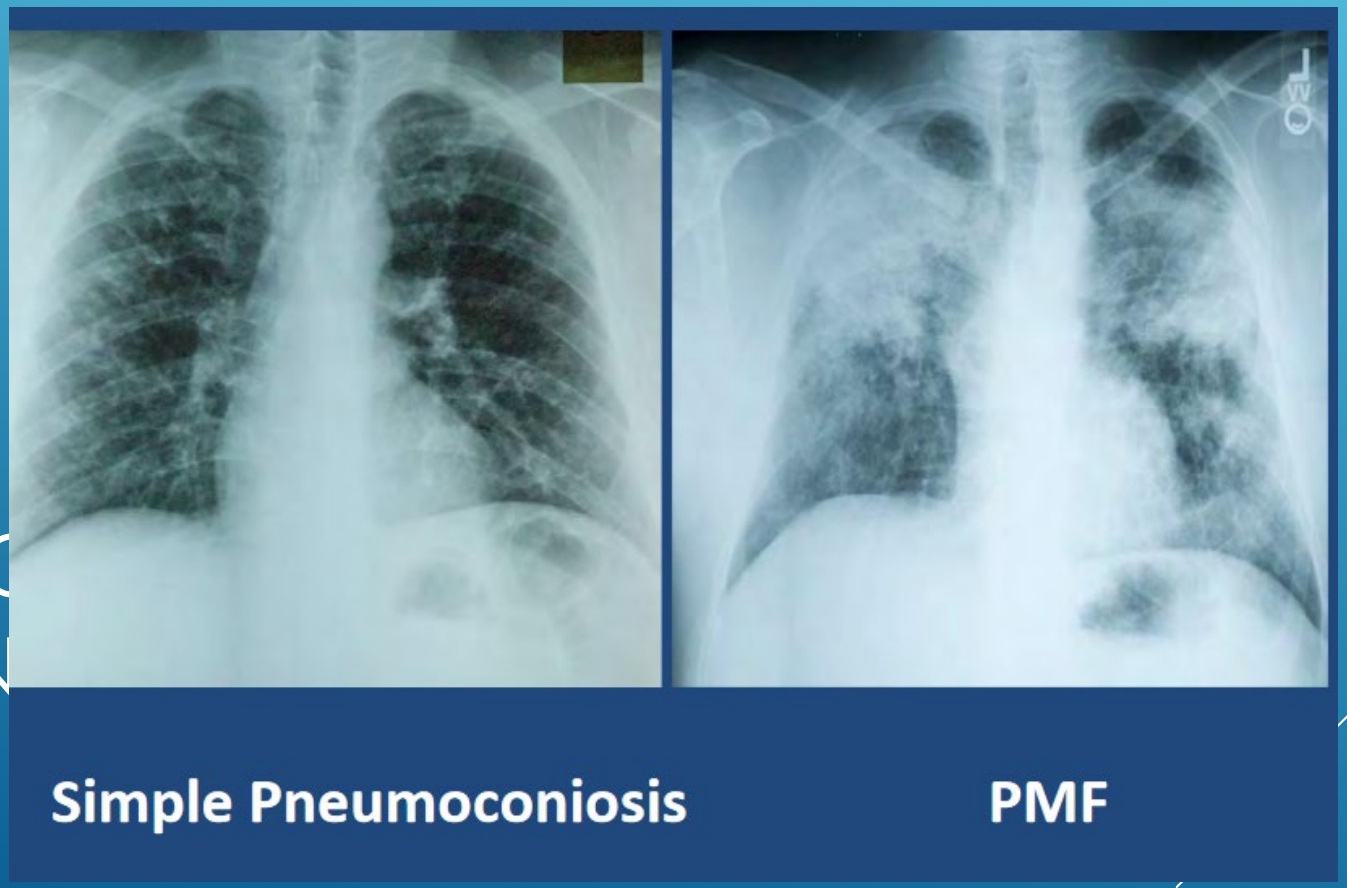
ASSESSMENT …

- The only reliable measure is patient self-report
- Respiratory rate, pO_2, blood gas determinations DO NOT correlate with the feeling of breathlessness

- Chest X-ray
- Spirometry

WHAT TESTS WOULD YOU WANT?

CO
PN



Source CDC
http://nas-sites.org/dels/files/2017/07/NIOSH_Laney-NAS-Presentation_6_27_2017.pdf

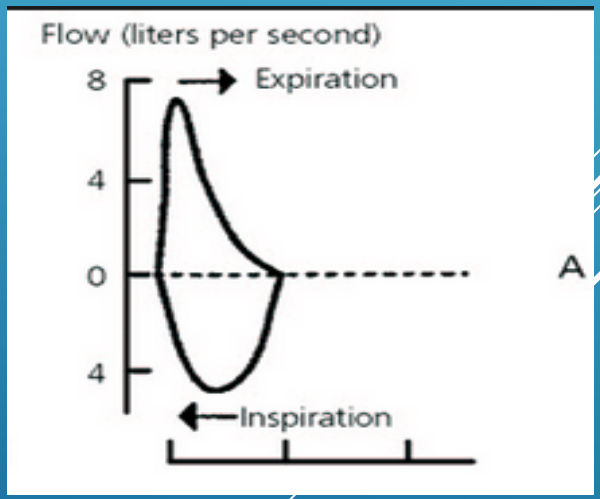
Progressive Massive Fibrosis

- End stage
- Decreased FVC <80
- Decreased FEV1
- FVC/FEV1- Normal to

Slight increased

- TLC- Normal

RESTRICTIVE LUNG DISEASE



- Pulse Ox- 84%, BP 129/84, pulse 102, R 22.
- Look for leg swelling or unilateral swollen leg.
- What else?

WHAT WOULD YOU DO TO WORK UP THIS PATIENT?

DYSPNEA: SPECIFIC CAUSES

- Anemia
- Airway obstruction
  - steroids, racemic epinephrine by inhaler
- Pleural effusions
  - drainage, thoracoscopy, pleurodesis

DYSPNEA: SPECIFIC CAUSES …

- Pulmonary edema
  - furosemide
- Bronchospasm
  - albuterol, steroids, ipratropium bromide
- Thick secretions
  - scopolamine, glycopyrrolate

- What treatment do you advise or start?

PALLIATIVE MANAGEMENT OF DYSPNEA

PALLIATIVE MANAGEMENT OF DYSPNEA

- Pharmacological and non-pharmacological management:
  - oxygen
  - opioids
  - anxiolytics
  - non-pharmacological interventions

NON-PHARMACOLOGIC INTERVENTIONS FOR DYSPNEA

- While considering which non-pharmacologic interventions to start:
- ALWAYS START OXYGEN AT AN APPROPRIATE LEVEL.
- BEWARE OF TOO HIGH A FLOW IN PATIENTS WITH COPD WHICH CAN SUPPRESS RESPIRATORY DRIVE AND WORSEN THE DYSPNEA.

OPIOIDS

- NEXT START AN OPIOID.

- Most effective medication for symptom control of dyspnea
- Relief not related to respiratory rate
- Central and peripheral action
- No ethical or professional barriers
- Start with small doses

OPIOIDS

- Vasodilators in CHF
- Reduce pre-load and after-load
- Do not depress respirations in small doses
- May need to convert to longer acting forms if dyspnea is persistent or requiring routine Q 4 hr dosing of short acting opioids

NON-PHARMACOLOGIC MANAGEMENT

- Elevating the head of the bed
- Reducing environmental irritants
- Keeping air moving using fans and open windows

NON-PHARMACOLOGIC MANAGEMENT

- Fan or cold air or washcloth to the face
  - Reflex from sensory (trigeminal) nerve in the face that when stimulated with cold or cool will slow breathing
  - Eases sensation of dyspnea

NON-PHARMACOLOGIC

- Circulating fan
- Cool moist cloth to face
- Re-assurance
- Relaxation techniques
- Counseling and support

COMPLEMENTARY THERAPIES

- Muscle relaxation
- Massage
- Guided imagery
- Hypnosis
- Meditation
- Aromatherapy

ANXIETY

- A state of feeling apprehension, uncertainty or fear
- May lead to some level of dysfunction

PREVALENCE OF ANXIETY

- Up to 21% of cancer patients
- Up to 50% of patients with CHF and COPD
- Often no symptoms of anxiety prior to treatment
- Often un- or under-diagnosed

ASSESSMENT…

- Detailed interview
  - Do you find yourself worrying a lot?
  - Are you often fearful?
  - Do you feel anxious?
- Tools
  - Hospital Anxiety and Depression Scale
  - Profile of Mood States

…ASSESSMENT

- Look for
  - insomnia
  - adverse effects of medications
  - medical conditions
  - withdrawal from alcohol, nicotine, opioids
  - alcohol, caffeine

MANAGEMENT

- Supportive counseling
- Complementary therapies
- Pharmacotherapy
- Combinations are often best

SUPPORTIVE COUNSELING…

- Weave into routine care
  - include family when possible
- Improve understanding
- Create a different perspective
- Identify strengths, coping strategies

…SUPPORTIVE COUNSELING

- Re-establish self-worth
- New coping strategies
- Educate about modifiable factors
- Consult, refer to experts

ACUTE ANXIETY

- Benzodiazepines – ideal for short term management ONLY
  - anxiolytics, muscle relaxants, amnestics,
  - antiepileptics
  - contraindicated in elderly (cognitive dysfunction, falls)
  - choose based on half-life (t½)
  - never more than one at a time
  - taper slowly

BENZODIAZEPINES …

- Longer t½ - sustained effect, may accumulate
  - Clonazepam: 30 – 40 hr
  - Diazepam: 0.83 – 2.25 days
- Shorter t½
  - Lorazepam ≈ 12 hr (ideal)
  - Alprazolam ≈ 11.2 hr (risk of rebound)

CHRONIC ANXIETY: BETTER FOR ANXIETY THAN BENZODIAZEPINES IN PALLIATIVE CARE

- ANTI-DEPRESSANTS
- SSRIs
  - latency 2–4 weeks
  - well tolerated
  - once-daily dosing
  - start with lower doses in advanced illness, titrate to therapeutic dose
  - check for medication interaction
- SNRIs

ANTI-DEPRESSANTS

- SSRIs
  - Paroxetine
  - Citalopram
  - Escitalopram
  - Sertraline
- SNRI
  - Venlafaxine

- Non-pharmacologic
- Anxiolytic
- Opioid
- Oxygen

WHAT TREATMENT DO YOU ADVISE OR START?

ANXIOLOTIC: WHICH ONE?

- Benzodiazepine
  - Short acting
  - Long acting
- SSRI
- SNRI

OPIOID: WHICH ONE?

- Short acting
- Long acting

WHAT ABOUT OXYGEN

- Why or why not?
- What is pulse ox reading?

WHAT ABOUT OXYGEN

- Why or why not?
- What is pulse ox reading? Medicare and private insurance typically require a sat of 88% or lower for 5 minutes during testing period to be qualified for oxygen.
- Hospice has no pulse oximetry reading requirement, it is a comfort measure and always provided under the Hospice Medicare Benefit.

OUTCOME

- Dyspnea improved

- Eventually converted to SSRI for anxiety: Sertraline 50mg daily
- Eventually converted to extended release Morphine 15mg Q 12 hrs routinely
- Patient remained comfortable.

SUMMARY