

THE IN'S & OUT'S OF GI SYMPTOM MANAGEMENT

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DISCLOSURES

- None

Disclaimers

OBJECTIVES

- Gain an overview of common GI symptoms in palliative care
- Understand the common causes of these symptoms
- Review the management options of these symptoms

Polyphonic teaching: There are participants who are of different degrees of experience and who practice in a variety of settings. We will do our best and try to strike a balance and keep all of you engaged and interested.

We will use generic names for meds and try not to use brand names whenever possible

SIGNS AND SYMPTOMS

- What's the difference?
- What is the finding vs. the experience?

Signs = 101.1F; P=140; RR of 30 and O₂sat of 86%

Symptoms = sweats and chills, palpitations; hard time breathing and SOB

Symptoms is what our patients “suffer” from. It’s what they experience. It’s why they call or go see a provider.

The experience is NOT just physical. It is based on past experiences be it positive or negative. It’s emotional, psychosocial, and spiritual.

PAIN/SYMP TOM CHARACTERIZATION

- History taking
 - What is the pattern?
 - What is the same vs. what is different?
 - P – palliation/provocation
 - Q – quality
 - R – region/radiation
 - S – severity (0-10/10 : may use for both pain and nausea)
 - T – timing
- Exam

SBAR

Situation

Background

Assessment

Recommendation

- S = What is happening? Why did we get called or why is the pt here?
- B = The context in which this is happening. (History)
- A = What is this telling us? What do we think this can be?
- R = What do we need? What is the ask? What should we do next?

DIARRHEA

- Passage of loose or watery stool, typically at least 3 episodes in 24-hours
- Acute: 14 days or less
- Persistent: 15-30 days
- Chronic: greater than 30 days

DIARRHEA

- Infectious causes
 - May be iatrogenic such as *C. diff* due to antibiotic tx
- Overflow
 - Impaction from either severe constipation or colorectal tumors
- Side-effect of medications
 - Anti-cancer treatment such as chemotherapy and radiotherapy
- Malabsorption
 - Prior surgeries such as resections or pancreatic insufficiencies
- Neuroendocrine (NE) tumor
 - e.g. Zollinger-Ellison Syndrome

DIARRHEA TX

- Rule out constipation and impaction
 - DRE
- If the diarrhea is due to blockage...
 - Is unblocking it an option?
 - If intervention is not possible/desirable, then the goal is for very soft stools with aggressive laxative use that can be easily passed around the obstruction

Rule out constipation and impaction

DRE – digital rectal exam

Point of care ultrasound (POCUS) is becoming more common place with portable US
e.g. Butterfly IQ and other similar products

If the diarrhea is due to an obstructive process

Surgery (removal of mass and possible ostomy)

Radiation

Stenting by GI if close/safe enough to reach by scope

If intervention is not possible/desirable, then the goal is for very soft stools with aggressive laxative use that can be easily passed around the obstruction

DIARRHEA TX

- Rehydration???
- For all bedbound patients, good skin care is especially important

Rehydration is an important component of care in palliation, and trial of rehydration enteral/parenteral may be considered. – IVF or Clysis(subcutaneous infusion)
However, in terminal patients this may lead to volume overload and should be used carefully for comfort when needed, or not at all in certain circumstances such as active dying.

DIARRHEA TX

- Antibiotics if needed
 - Use antimotility agents (e.g. loperamide) with caution in patients with infectious etiology.
- Antisecretory & antimotility agents such as Glycopyrrolate, Loperamide, or Diphenoxylate-atropine are typically used as first line medications.

Glycopyrrolate 1-2mg PO QD-TID PRN; 0.1-0.4mg IV/SC QD-TID

Loperamide 4mg PO followed by 2mg for each subsequent loose stool up to 16mg/day

Diphenoxylate-atropine 5mg QD-QID up to 20mg/day

DIARRHEA TX

- Somatostatin Analog (Octreotide):
- For refractory diarrhea or diarrhea due to chemotherapy or NE tumors
- Bulking agents (Fiber):
- In certain patients, dietary soluble fibers such as Psyllium or Methylcellulose can be helpful; however, patients must be able to maintain adequate fluid intake.

Octreotide 100-150mcg SC/IV Q8 hours up to 500mcg Q8 hours

Without adequate water intake bulking agents can cause constipation

CONSTIPATION

- Constipation is typically characterized by infrequent and difficult defecation, often with painful passage of hard, small stool.
- This is a very common problem for frail, elderly, critically ill, and terminal patients, and have a significant impact on patients' quality of life.
- Severe constipation may lead to overflow diarrhea, urinary retention, delirium, nausea, and vomiting.

CONSTIPATION – COMMON CAUSES

- Poor diet
- Dehydration and immobility
- Disease of the GI tract
 - Cancers, strictures, fissures, proctitis
- Metabolic disturbances
 - Hypothyroid, hypercalcemia, hypokalemia, diabetes, paraneoplastic syndrome
- Neurologic disorders
 - Spinal cord injury, malignant spinal cord compression, Parkinsonism
- Medications
 - Opioids, anti-emetics (e.g. 5HT3 inhibitors, prochlorperazine), anticholinergics, cardiovascular medications, psychiatric medications, supplements (e.g. iron & calcium)

CONSTIPATION

- The performance of a rectal exam for rectal tone, fecal impaction, fissures, hemorrhoids, enlarged prostate, tumors, etc.
- Plain film, ultrasound, and other imaging are usually unnecessary.
- Underlying medical and surgical issues should be addressed.
- When necessary, manual disimpaction should be performed.

CONSTIPATION

- In general, patients should be encouraged to increase mobility whenever possible and consume a diet conducive to regular bowel movements.
- It is important to maintain adequate hydration especially if osmotic agents are being used.
- Fiber based bulking agents such as psyllium and cellulose may result in worsening constipation if patient is unable to consume sufficient water.

CONSTIPATION - SPECIAL CONSIDERATIONS:

- Patient with a colostomy may require bowel regimen to avoid constipation.
- Rectal suppositories are generally still effective for patients with colostomy since their rectal circulation and innervation is still intact.
- Rectal stimulation may be required for patients with spinal cord injury or other neurogenic cause for constipation.
- Patients who have minimal or no oral intake will continue to make small amounts of stool from sloughing of intestinal luminal cells and gut bacteria.

We sometimes hear “How can s/he be constipated? He has not eaten hardly anything?”

CONSTIPATION

- Mush & Push
- Mush
 - “osmotic laxatives”
 - e.g, PEG-3350 and lactulose
- Push
 - “neurostimulants”
 - e.g. Senna and Bisacodyl

Patients typically need both an osmotic agent to provide softening + lubrication, AND require neurostimulation for promotility kinetic effect.

Osmotic laxatives as a class of agents work by “pulling water” into the intestine.

Neurostimulants are nerve agents that “wake-up” and stimulate the nervous system that has either been shut down, got sluggish, or “gone to sleep”.

CONSTIPATION

- Neurostimulants = promotility agents
- Senna and Bisacodyl
 - activated and absorbed in colon (lower GI) 6-12 hours
 - little to no stimulant effect on stomach (gastroparesis) or small intestines
 - Rectal formulations (suppositories or enemas) act much faster. Suppositories are rapidly converted by rectal flora to their active form in 15~60 minutes. The most common side effect is abdominal cramping.

Neurostimulants = Senna and Bisacodyl

Neurostimulants act as promotility agents by providing direct stimulation of lower GI plexus to induce peristalsis and propulsion.

Orally administered Senna and Bisacodyl are activated and absorbed in colon (lower GI) in 6-12 hours and have little to no stimulant effect on stomach (gastroparesis) or small intestines.

Rectal formulations (suppositories or enemas) act much faster. Suppositories are rapidly converted by rectal flora to their active form in 15~60 minutes. The most common side effect is abdominal cramping.

*Don't give senna and bisacodyl orally if it cannot (or takes too long) to get to the colon.

CONSTIPATION

- Osmotic agents play an important role by providing lubrication and softening and help trigger stretch receptors in the GI tract.
- Polyethylene Glycol-3350 (PEG-3350)
 - iso-osmotic polymer
 - safe to use
 - easily dissolves

PEG-3350 is an iso-osmotic polymer that does not shift electrolytes, which makes it very safe to use, especially for maintenance, even for children, the elderly, and the very ill (including as bowel prep). It easily dissolves into any kind of liquid at any temperature but does require patient to drink 200mL or more to be effective. This amount can be challenging for some patients to consume. As a dose dependent agent, it can be rapidly acting when given in large volumes.

Think about how much PEG-3350 we give as bowel prep for colonoscopy!

CONSTIPATION

- Sugar based laxatives include lactulose, sorbitol, and mannitol.
- They work mainly in colon and act in 1~2 days.
- Lactulose has the additional benefit of being effective in hepatic encephalopathy.
- Sorbitol and mannitol are cheaper and just as effective.
- When these sugars are broken down by GI bacteria, they often cause bloating and flatulence.

Lactase deficient patient can just drink a small carton of milk. They can't break down the lactose in milk and thus the same effect. Plus you get some calories and nutrients in!

CONSTIPATION

- Electrolyte and saline-based laxatives are typically sodium and magnesium based agents (e.g. sodium phosphate, magnesium citrate).
- They increase secretion and motility and work on the entire gut including the small intestines.
- They act quickly usually within 30 minutes to 2 hours.
- These are not good agents if patients require regular maintenance laxatives.
- Watch for possible electrolyte imbalance especially in patients with renal problems.

This can be dangerous for frail patients.

But can be really effective to clean someone out. (Blow out)

Can also be given as an enema

CONSTIPATION

- Lubricant laxatives, such as mineral oil and glycerin suppositories, lubricate stool surface and decrease water absorption. They act slowly in 1~3 days and are only appropriate for short term use.
- Enemas
 - mechanical flushing and lubricating effect.
 - instilled volume triggers a mechano-stretch receptor response
 - caution in patients with risk for bleeding such as those with thrombocytopenia (low platelet)

Enemas create a mechanical flushing and lubricating effect. The instilled volume triggers a mechano-stretch receptor response. The addition of pharmacologic content may provide added stimulant and/or osmotic effect. Use with caution in patients with risk for bleeding such as those with thrombocytopenia.

CONSTIPATION

- In the case of severe opioid induced constipation opioid receptor antagonists may be considered.
- ... Docusate aka Colace ...***

Antagonists such as Naloxone, given orally 0.8mg PO BID to start, may play a role if patients are not responding to traditional laxatives.

There are also other options such as Methylnaltrexone

Colace = no evidence base and the liquid taste TERRIBLE. It's basically a detergent. I almost never use it unless I am using the liquid Colace to clean out ear wax.

SIDE NOTE - BLEEDING...

- Melena vs. hematochezia
 - Labs – H&H; platelet; BUN
- Upper vs lower GI (Digested or undigested.)
 - Common causes include:
 - Underlying illnesses esp malignancy
 - Ulcers & diverticuli, and AVM's
 - Medication induced
- Can also lead to hematemesis

*Could take this slide out... or leave it in for people to look at on their own

Melena is black, tarry, foul smelling, digested blood.

Hematochezia is blood in stool

Hematemesis is vomit with blood can be bright red or can be “coffee ground” indicating digested blood.

NAUSEA & VOMITING

- What is the difference?
 - What is it?
 - Objective vs. subjective

Vomiting or emesis is the forceful emptying of gastrointestinal contents through one's mouth and can be objectively quantified and characterized, while nausea is a subjective sensation of the desire to vomit.

Nausea and vomiting are often accompanying symptoms, but patients may experience one without the other.

It is important to distinguish between nausea and vomiting and evaluate each separately and their relation to one another

Persistent nausea can cause significant distress, discomfort, and decline even in the absence of vomiting.

NAUSEA & VOMITING

- Dysmotility of upper gastrointestinal tract
 - Gastroparesis
- Medications and treatment related side-effects
 - Chemotherapy and Radiotherapy induced nausea & vomiting (CINV/RINV), digoxin, antibiotics, opioids
- Metabolic disturbances
 - Renal failure (uremia), liver failure, electrolyte imbalances
- Obstruction of gastrointestinal tract (intrinsic vs. extrinsic)
 - Tumors (both intra and extra-luminal), constipation, ascites
- Infectious etiology
- Vestibular disturbance
- Anxiety
- Often with an anticipatory component
- Severe pain
- Increased intracranial pressure
- Tumors, hemorrhage

Busy slide -> go to next slide to simplify

NAUSEA & VOMITING

- VOMIT

- Vestibular
- Obstruction
- Motility
- Inflammation
- Toxins

From James Hallenbeck's Palliative Care Perspectives and Stanford's End-of-Life Care Curriculum.

NAUSEA & VOMITING

- Vestibular involvement
 - Mediated by cholinergic and histaminic receptors this is most often associated with motion sickness and dizziness.
 - Anti-cholinergic and anti-histaminic medications that cross the blood brain barrier penetrating the CNS work best but tend to be more sedating.
 - Medications in this group include hyoscine hydrobromide (scopolamine), promethazine, diphenhydramine

NAUSEA & VOMITING

- GI Obstruction
 - If inflammation and edema are part of the etiology, then steroids like dexamethasone or prednisone may be useful anti-inflammatories. (Consider a 5-day burst course.)
 - Look for and treat constipation.
 - Inpatient setting: Stenting; surgery; radiation

NAUSEA & VOMITING

- Gastroparesis
 - “Squashed stomach”
 - Gastroparesis can be treated with prokinetic agent via 5HT4 agonism and procholinerpic activity like metoclopramide (also provides D2 blockade).
 - Erythromycin can be helpful, but tachyphylaxis is common.

NAUSEA & VOMITING

- Chemoreceptor trigger zone (CTZ)
 - Mediated by dopamine, 5HT₃ (serotonin), and histamine receptors, the CTZ, located at the base of the fourth ventricle, detects and is especially sensitive to changing levels of toxins in the blood stream, such as chemotherapy.
 - Medications in this group include ondansetron (or other available medications in the – "setron" family that exert 5HT₃ blockade), prochlorperazine (D₂ dopamine and H₁ histamine blockade), and haloperidol (D₂ blockade).

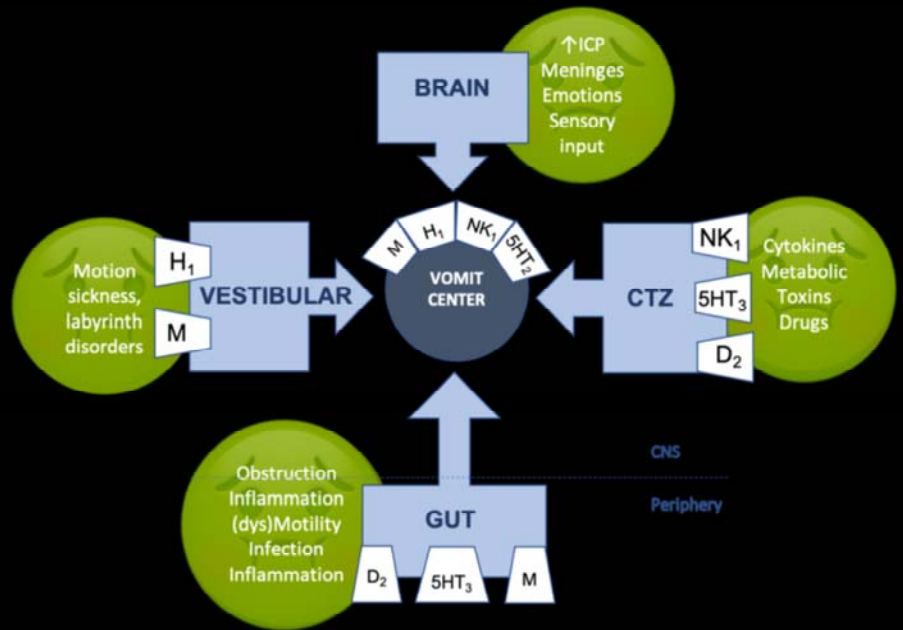
NAUSEA & VOMITING

- Anxiety or anticipatory nausea/vomiting
 - Benzodiazepines are not good stand-alone antiemetic agents and may increase risk of aspiration but are excellent anxiolytic medications in patients for whom this is an issue.

NAUSEA & VOMITING

- Also effective:
 - Mirtazapine, Quetiapine
 - Cannabinoids*

NAUSEA & VOMITING



[Nausea Vomiting Drugs Quick Guide\(v1\) \(wixstatic.com\)](https://www.wixstatic.com/nausea-vomiting-drugs-quick-guide-v1) courtesy of Alex Sable-Smith MD, MPH

Antiemetic Drugs and Receptor Action							
	+ Agonist →						SHT ₄
- Antagonist →	D ₂	H ₁	M	5HT ₂	5HT ₃	NK ₁	
<i>Aprepitant</i>							
<i>Chlorpromazine</i>							
<i>Haloperidol</i>							
<i>Metoclopramide</i>							
<i>(Ondan)setron</i>							
<i>Olanzapine</i>							
<i>Prochlorperazine</i>							
<i>Promethazine</i>							
<i>Scopolamine</i>							
Adverse effects	-EPS -long QT	-Sedation -Delirium	-Sedation -Delirium -Constipation -Dry mouth -Urinary retention	-sedation	-constipation -Headache -Long QT	-Fatigue -Neutropenia	-colic
<p>Benzodiazepines likely help nausea via anxiolysis when there is a strong affective component, as well as through sedative effect. Cannabinoids have been shown in some studies to reduce nausea, thought to be mediated through action on cannabinoid receptors which are abundant in the CNS. Steroids are thought to work by reducing inflammation, which can both address underlying cause (i.e. edema surrounding tumor) and reducing downstream inflammatory mediators.</p>							
Legend	<ul style="list-style-type: none"> Strong activity Moderate activity Weak activity No activity 	D=dopamine, H=histamine 5HT=serotonin, NK=neurokinin M=muscarinic acetylcholine receptor		Adapted from: <i>Palliative Care Formulary</i> , 6 th Ed. (2017). Edited by Twycross, Wilcock, and Howard.			

[Nausea Vomiting Drugs Quick Guide\(v1\) \(wixstatic.com\)](https://www.wixstatic.com) courtesy of Alex Sable-Smith MD, MPH

MALIGNANT BOWEL OBSTRUCTION (MBO)

- MBO may occur due to tumor growing from inside or outside the GI tract.
- Most patients “auto-convert” between varying degrees of partial to complete obstruction as the GI tract moves within the abdominal cavity.
- Unresolved complete bowel obstruction without a surgical option will often lead to perforation and is fatal within hours to days.

MALIGNANT BOWEL OBSTRUCTION (MBO)

- MBO causes significant and burdensome symptoms related to the swings between hyperactivity of the gut (hypersecretion and hypermotility) resulting in cramps, nausea, and vomiting to hypoactivity resulting in gastroparesis, GI-stasis, and bloating.
- Goal of treatment is ongoing support.

MALIGNANT BOWEL OBSTRUCTION (MBO)

- Consider the possibility of stenting or surgery if needed.
- Decompression via nasogastric tube or venting gastrostomy can provide some relief but causes discomfort and introduces additional morbidity.
- Fluid support should be provided as tolerated for comfort.
- Management and support of MBO often include monitoring and repletion of electrolytes in an acute setting.

Managing symptoms of nausea and vomiting is an essential part of supportive care for MBO.

MALIGNANT BOWEL OBSTRUCTION (MBO)

- Octreotide
- Steroids
- Anticholinergics
- Proton pump inhibitor & H2 blockers

Octreotide, a somatostatin analog, decreases secretions and decreases motility while allowing GI tract to maintain reabsorption and other key functions. Its efficacy in MBO is controversial, but for refractory patients it is often trialed when available. It can be given subcutaneously as an injection or as a continuous infusion. Patients may need a few days to see the full effect of this medication. 1 month depot formulation also available but very expensive.

Steroids, like dexamethasone, may often be helpful to help decrease inflammation.

Promotility agents, such as metoclopramide, may be used in partial bowel obstruction, but should be avoided in complete or severe obstruction. These medications may be used in conjunction and provide a synergistic effect.

Anticholinergics, especially those that do not cross the blood brain barrier (e.g. glycopyrrolate or hyoscine butylbromide) may help decrease GI secretion and motility to provide bowel rest. Proton pump inhibitor and H2 blocker may be used to decrease gastric secretion. For patients who are not surgical candidates in complete obstruction or with bowel perforation aggressive symptom management with opioids for pain is essential. Sedation is often a desirable side effect for these patients, and one should preferentially choose anticholinergic agents that readily cross the blood brain barrier such as hyoscine hydrobromide (scopolamine).

ANOREXIA & CACHEXIA

- Anorexia is the loss of appetite for food where patients lack the sensation of hunger; it is often an associated symptom for patients with GI symptoms.
- Cachexia is a wasting syndrome of weight loss and muscle atrophy, often characterized by weakness and fatigue.
- With treatment and reversal of the underlying disease process whenever possible, appetite should return. However, the end-stage of many conditions (e.g. cancer, HIV/AIDS, CHF), including actively dying patients, anorexia and/or cachexia is often part of the terminal process.

ANOREXIA & CACHEXIA

- Anorexia must be distinguished from starvation, where hunger is present and patients are being *deprived* of adequate food intake.
- Provide education and supportive counseling to address psychosocial and cultural concerns associated with anorexia and cachexia.
 - Eating and sharing of meals is a deeply ingrained human activity that is transcultural.
 - It is often very distressing for family members to witness the process of anorexia and cachexia.

Often dysgeusia – taste alteration due to chemo or underlying dz -

ANOREXIA & CACHEXIA

- Smaller portions and eating for pleasure can be satisfying for many patients.
- Artificial enteral or parenteral nutrition offers no benefit in terminal and end-stage conditions.
- Adequate caloric/nutritional intake is neither a priority nor a goal in management.
- In end-of-life care, find alternate ways besides feeding for family members and caregivers to nurture and care for the patient.

ANOREXIA & CACHEXIA

- Treatment of reversible conditions (e.g. oral thrush, constipation) and optimal management of chronic conditions is paramount.
- Early satiety may be seen in patients with compression of the stomach from ascites, hepatomegaly, or other forms of outlet obstruction and gastroparesis.
- Metoclopramide, a promotility agent, can be used if the patient has symptoms of early satiety and delayed gastric emptying.

ANOREXIA & CACHEXIA

- Certain medications have an orexigenic (appetite stimulating) effect, but do not reverse the underlying pathology and do not address the issue of cachexia.
- Steroids
- Mirtazapine & Olanzapine
- Cannabis
- Progestin agents such as megestrol should be avoided due to undesirable side-effects: water retention and prothrombotic profile, which is especially problematic for many cancer patients.

QUESTIONS?

THANK YOU

REFERENCES

- **Hsin, G.** (2019). "Gastrointestinal Symptom Management" in E. Waldman and M. Glass (Ed.), *A Field Manual for Palliative Care in Humanitarian Crises* (pp.33~45). New York, NY: Oxford University Press.
- Hallenbeck, J. (203). *Palliative Care Perspectives*. New York, NY: Oxford University Press.
- [Nausea Vomiting Drugs Quick Guide\(v1\) \(wixstatic.com\)](#)
 - [Nausea, Vomiting & Antiemetics \(alexsablesmith.com\)](#)
 - Last accessed 2/26/2021

RESOURCES (ONLINE + FREE)

- [Fast Facts - Palliative Care Network of Wisconsin \(mypcnow.org\)](http://mypcnow.org)
- [Field Manual for Palliative Care in Humanitarian Crises - Oxford Medicine](#)
- [Home | Alex Sable-Smith, MD, MPH](#)

WELCOME TO THE CASE STUDY

Hospice (Christine)	Acute Care / ER / ICU (Dr Shana)
Hospice (Colleen)	
Hospice (Kim)	Home Health / Clinic (Julie)
Hospice (Niamh)	
Hospice (Debi)	APRN (Dr Gary)
Hospice (Jamie)	APRN (Dr Cara)

- Choose your breakout room by clinical setting or wait for host to assist you.
- Once you are in the breakout room, take a quick break.
- Return to your breakout room & your moderator will guide through the case.
- Locate the “Ask for Help” button & the count down timer (15-20 minutes).
- Return to the Main Room to debrief.

CASE STUDY: MR. LEE

Mr. Lee is 76 y/o male with Stage II colon cancer diagnosed 2017 s/p resection. In 12/2020, CEA level increasing and PET showing carcinomatosis w/ large mass consistent with recurrent colon cancer stage IV. Comorbidities include CKD V on HD started 03/2020, CAD, DM type II, HTN, HLP, anemia and chronic LBP. He lives with his wife and is well supported by his daughters who all live locally.

- Continues to go to dialysis MWF. Experiences fatigue on dialysis days.
- He is ambulatory and requires some assist with bathing.
- Has a declining appetite though still enjoys his favorite foods.
- Occasional nausea, no vomiting.
- Worsening abdominal pain correlating with growing size of RUQ mass spreading t/o his right side and crossing midline to LUQ. He was using Tylenol but it is not effective so he is starting to take Norco (Acetaminophen 300mg/Hydrocodone 5mg) daily.

Now he is complaining of abdominal pain, nausea and not much of an appetite.

BREAKOUT ROOMS

- Choose your breakout room (or get help from the host)
- Take a quick break and return to your breakout room at 11:00

Ready, Set, Choose!

CASE STUDY: MR. LEE (CONT'D)

Mr. Lee had a malignant bowel obstruction which he is recovering with aggressive symptom management. The subsequent 2 weeks at home has been difficult. Everyone is exhausted physically and emotionally. After thoughtful discussion with his treatment team and his family, Mr. Lee has decided to stop his HD. After about a week without dialysis, he begins to have nausea and vomiting again. His vomiting is mostly controlled by his ondansetron ODT, but he still feels quite nauseous most of the time. In addition, he has no appetite at all and has stopped eating all together. He has lost even more weight and is down to about 110lbs. (He is 6' tall.) Pt is weak and tired.

His daughter, who has become his primary caregiver, reports that the steroids that once helped don't seem to be doing anything now. She is distraught and says, "I mean, I know he is going to die from this cancer, but I'm not going to let the man just starve to death!"

APPRECIATIONS

Guest speakers → Dr. Gary Hsin / Dr. Shana Segers

Case discussion moderators →

RN Christine Stewart (Hospice)
NP Niamh van Meines (Hospice)
RN Kim Carroll (Hospice)
RN Colleen Baker (Hospice)
RN Debi Bach Davin (Hospice)
RN Jamie McNamara (Hospice)

NP Julie Lautner (Home health/Clinic)
Dr. Shana Segers (Acute Care)
Dr. Gary Hsin (APRN)
Dr. Cara Levin (APRN)