# A Palliative Care Approach to Management of Nausea, Vomiting and Mouthcare

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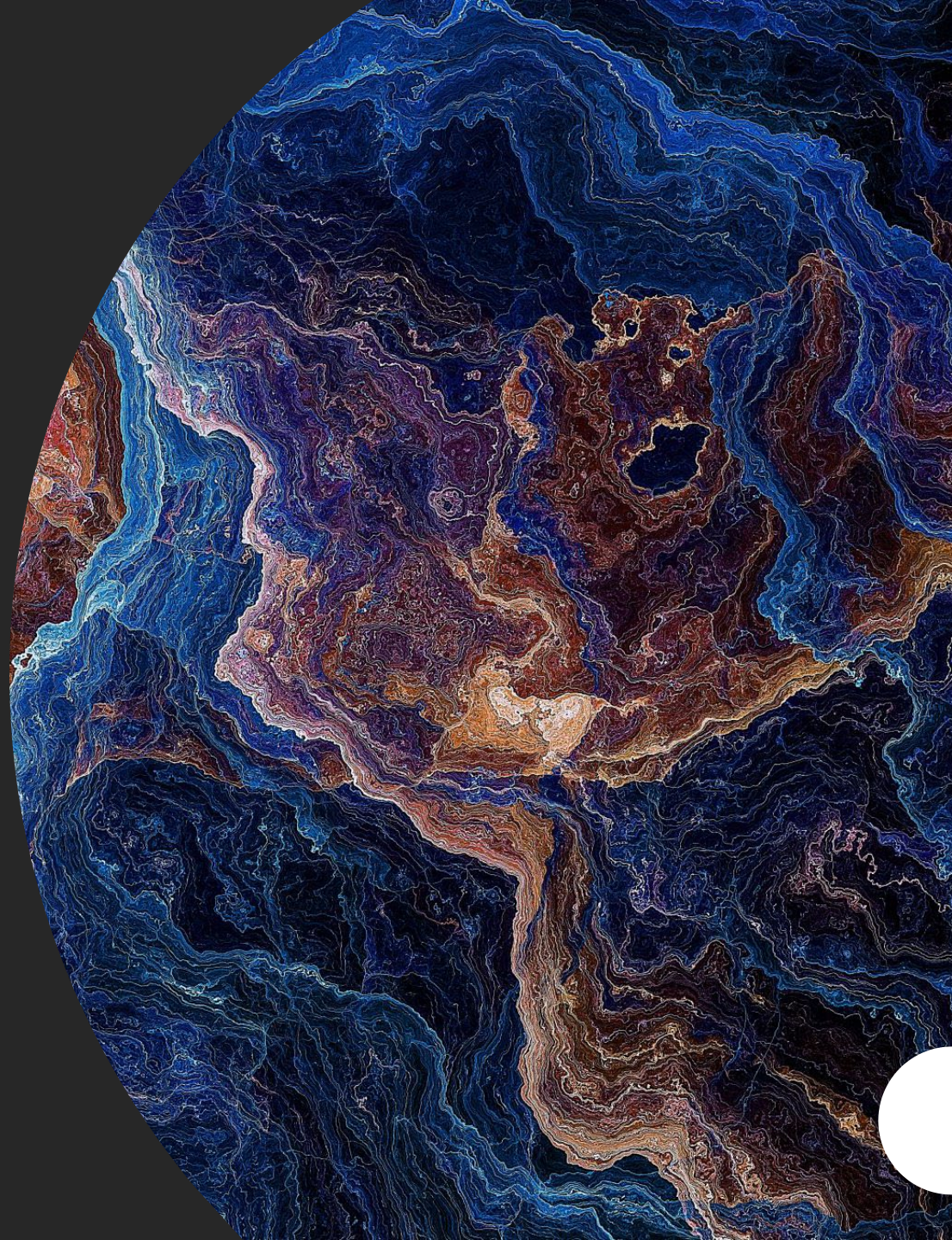


*No conflicts of interest to declare*

# Objectives

1. Describe helpful tips for managing common Mouth symptoms
2. Overview of Causes of N/V
3. Choose the correct drug for managing nausea and vomiting
4. Update on CCO Guidelines for treatment of CINV
5. Discuss what medications to transition to at end of life

# *Starting at the top…*
# *Why is Mouthcare Important?*

# *Case #1*
# *My very first day of residency…*

- Violet – end stage renal failure
- Dialysis every other day
- Decided to stop further Dialysis
- Determined pt to be lucid and understanding of implications of this decision
- Is there ANYTHING I can do to make this better?
- "I just want that MAGIC MOUTHWASH"

# 92-99% of Patients Have Mouth Symptoms

Oxygen – causes xerostomia

Drugs that cause dry mouth – anticholinergics, opioids, diuretics

Chemo/radiation

Mouth breathing

Salivary dysfunction – normal part of dying

Dehydration

Cachexia/malnutrition from vitamin deficiencies

# *General Principle of Mouth Care*

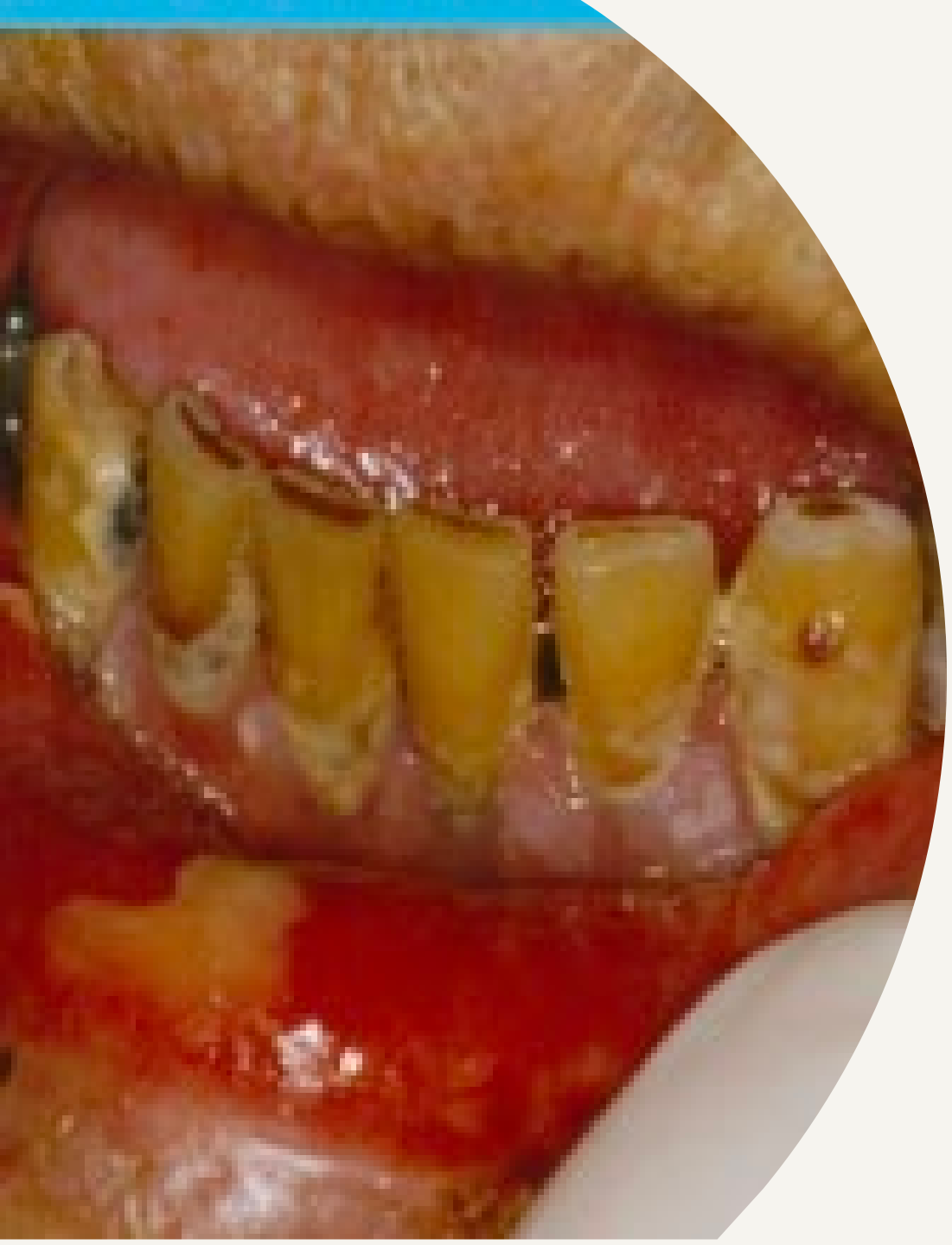
- Is something that the families can get involved with

  *(May help give them a tangible action other than feeding fluids when no longer safe to swallow)*

- In Hospital : Mouth care orders should be qid REGULARLY and include

  1) Cleaning : getting rid of debris/brushing
  2) Soothing
  3) Lubricating

Feel Free to be Bossy!



# Bossy Cleaning Suggestions

1) BRUSH TEETH AND TONGUE WITH SOFT TOOTH BRUSH OR WIPE DOWN WITH CLOTH

2) SWISH AND SPIT WITH N/S OR HYDROGEN PEROXIDE: H20 OR BAKING SODA AND WATER TO GET RID OF DEBRIS

*DO NOT USE PEROXIDE FOR EXTENDED PERIODS OF TIME

3) REMOVE DENTURES

4) FLOSS AS LONG AS PT NOT THROMBOCYTOPENIC

# *Lubricating : Hot Tips*

- Lots of options here for family to bring in
- Choose mouthwashes without sugar or alcohol – water based is preferable
- Water based lubricant : KY Jelly, “muco”
- Artificial Saliva : Mois-tir spray, Mouth Kote, Oral Balance
- Spray bottle with soda water and peppermint extract
- Ice chips, popsicles, raw pineapple
- Pineapple = natural secretagogue (Just make sure there’s no open sores!)

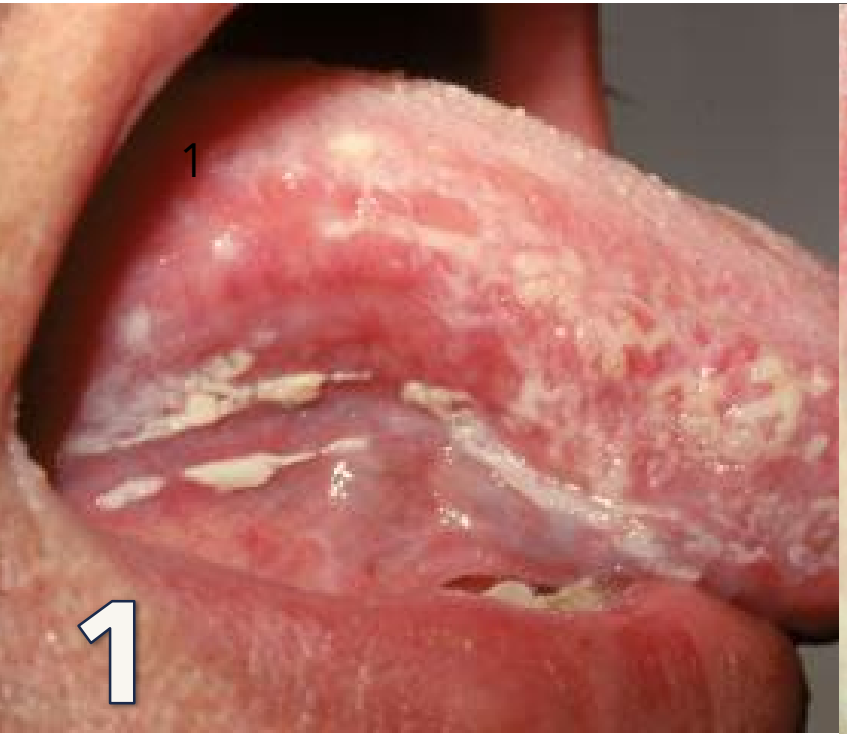
# *Soothing : The Elusive Magic Mouthwash*

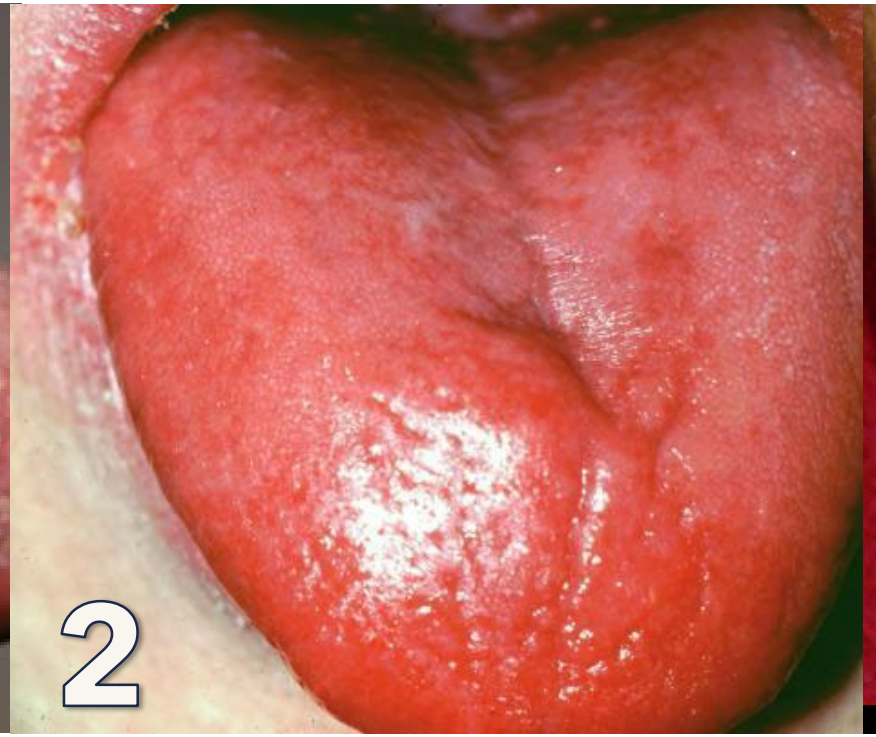
1. Nystatin (if thrush) 500,000 IU
2. Numbing agent : 2% viscous xylocaine or tantum
3. Coating : maalox/peptobismol/Diovol

*1:1:1 ratio swish and spit qid*

The PMH Secret Ingredient : Koolaid Mix

# *Which of these patients have Thrush?*





**4 : All of the above**

# *Thrush*

Candidal infection of the mouth

Several Forms of thrush

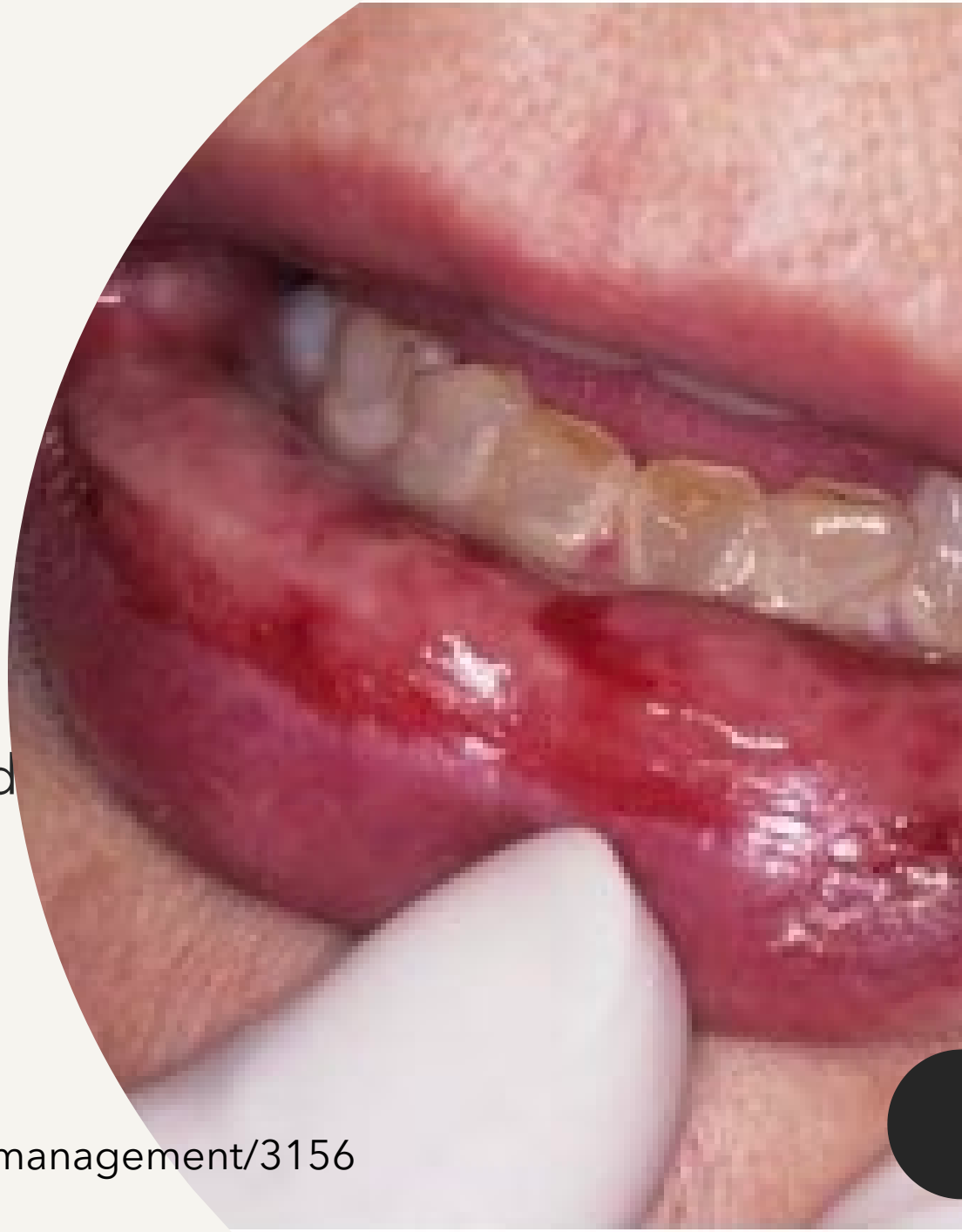
- Yellow plaque that does not come off
- Beefy red, cracked tongue
- Black hairy tongue

# *Thrush - Treatment*

- Rx Nystatin rinse 500,000IU qid x14d
- Fluconazole 100mg po od x 14d or x7d after healed
- 1 vaginal miconazole tablet (Monistat) dissolved in mouth qid x 14d

# *Mucositis Pain*

- Previously used to use liquid narcotics : liquid morphine/codeine
- Current standard is to treat mouth pain like any other kind of pain
- Severe mucositis : Dexamethasone rinse 0.1-0.4 mg/mL swish and spit 10mL (hold x 60sec)
- Oral Steroids if severe
- Grading system on CCO website



https://www.cancercareontario.ca/en/symptom-management/3156

# *Nausea and Vomiting*

…We all know why THIS is important…

# *Mrs. Em Asis*

- 65yo woman with metastatic ovarian cancer on 2nd line treatment (IV Paclitaxal)
- Reason for admission = syncope, Saddle embolus bilat pulmonary arteries
- Hypotensive – admitted to  ICU, required pressors
- GI Bleed from anticoagulants – awaiting IVC Filter
- Consulted on day 5 of admission for Goals of care discussion and help with nausea

# *Mrs. Em Asis*

- PMHx :  T2DM, OA, Constipation, Scoliosis, GERD, Psoriasis
- Meds : Senokot ii qhs, Pantoprazole 40mg IV od, Almagel 15cc prn, Dimenhydrinate 50mg IV q6hr routinely, Olanzapine 5mg sl prn
- IV Ringers with K+
- Social : married, no kids, x2 dogs, enjoys travel, cottage, worked market research firm, financially stable

# *Mrs. Em Asis : Review of Systems*

- No pain but + abd tightness
- GI : ++ GERD,  causing nausea, worse with po meds/food
- Emesis x1 in ER
- Constant Nausea
- Bowels moving regularly
- ++ Fatigue – hasn’t been out of bed since admission
- Peripheral edema ++ : unable to ambulate b/c of edema
- Denies anxiety but felt sad about prognosis

# *Goals of Care*

- Understands that there are no more treatment options
- Prognosis of Months

1. Discharged home
2. Spend time with Family
3. Get up to cottage one last time with brother
4. Didn’t want to burden husband so needed to be more mobile prior to discharge

*Why do you think she is Nauseated?*

# *Nausea and Vomiting in PC*

Prevalence : 60-80%

Incr risk :  young, female, stomach, GU, breast cancers

Decr risk : older, male, chronic alcohol use

Often multiple etiologies

Incr incidence closer to death : ? a prognostic sign

No clinical validation scores : have to go with pt hx

OPQRST – 10 point scale, relieving/aggravating factors, ?relief with vomiting, presence of N + V or just V alone

# *The 11 M's of Emesis*

- Meds (chemo, opioids)
- Mets (brain/liver)
- Meningeal Irritation
- Motion (Vestibular apparatus)
- Motility (gastroparesis, constipation)
- Mechanical Obstruction
- Microbes
- Metabolic (Calcium!)
- Mentation (anxiety, anticipatory)
- Mucosal irritation (gastritis)
- Myocardium (CHF, ischemia)

# *Why Might she Be Nauseated?*

GI : Gastritis, diabetic motility, irritation from carcinomatosis

Chemical : meds, ? sugars

Hypotension : vestibular

Cortical : anxious re : new prognosis

# *Survey: What would you do next for Mrs Em Assis?*

1. Take a more detailed history and physical with the above causes in mind
2. Start Metoclopramide 10mg q6hr s/c routinely
3. Add Dexamethasone
4. All of the Above

# *And the Evidence Suggests…*

- Australian Study comparing Receptor Based Approach vs Metoclopramide showed no significant difference in outcomes
- Multiple studies on Metoclopramide vs other meds show Metoclopramide is superior
- Bottom line : 40% of the time nausea will improve by starting metoclopramide

## Has This Changed my Practice?

# *Nausea & Vomiting: mechanisms*

**Brain cortex**

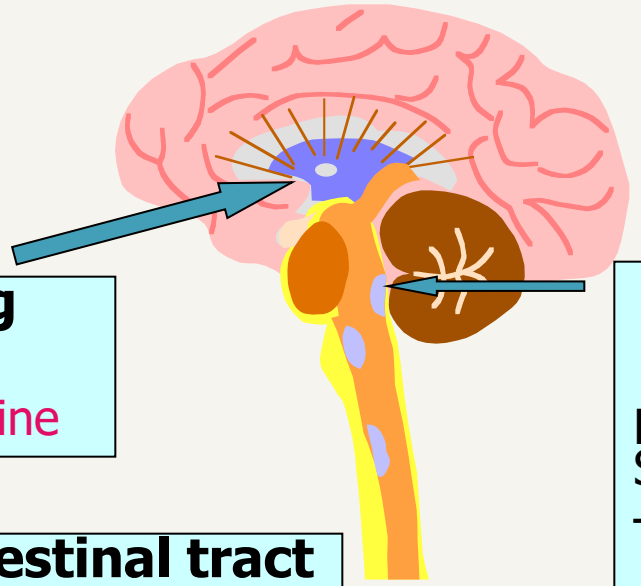
GABA

Anxiety, anticipatory nausea

**Vestibular app.**

Histamine, Cholinergic

Motion induced



**Vomiting Centre**

ACH, dopamine

**Chemoreceptor trigger zone**

dopamine, NK1, $5HT_3$,

Drugs (e.g. chemotherapy, opioids, SSRIs)

Toxins (infections, etc)

Biochemical (e.g. hypercalcemia, uremia, etc)

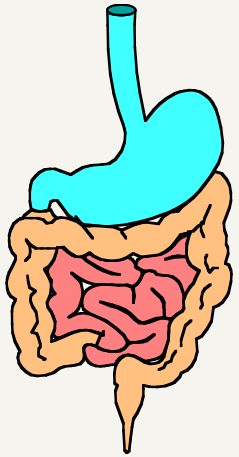
**Gastro-intestinal tract**

dopamine, $5HT_3$

Tumors

Obstruction

Distension



# *Principal Sites: History/Physical cues*

- Chemoreceptor Trigger Zone :

  *outside BBB anything circulating in blood (opioids, chemo, calcium, uremia, sepsis)*

- Vestibular Apparatus and Labrynth :

  *sensitive to movement, vertigo, dizziness*

  *Cerebral Cortex :*

  *nausea caused by smell, hearing or stress, anticipatory*

- Mechano/Chemoreceptors of GI tract :

  *distention, obstruction, constipation*

- Brain Pressure Receptors : Detect raised ICP

  *Often vomiting without nausea, worse in am, worse sitting up*

# *Metoclopramide (Maxeran)*

*Metoclopramide will work 30- 40% of the time regardless of etiology*

- ✓ *Dopamine AND serotonin antagonist*
- ✓ *Promotility agent*
- ✓ *Mildly sedating only, not constipating*
- ✓ *Can be given po or IV/SC*
- ✓ *Considered Gold Standard*

** Glare, P et al Treating Nausea and Vomiting in Palliative Care ; A review, Clin Interv Aging 2011:6:243-59*

# *What Did I do for Mrs Em Assis?*

1. Add Metoclopramide 10mg s/c q6hr routinely
2. Double Pantoprazole to 40mg bid IV
3. Stop routine Dimenhydrinate : left it prn
4. Stop IV Fluids (to reduce edema and work towards d/c)
5. Continued Olanzapine prn

# *Visit #2*

- Hasn’t needed any dimenhydrinate
- Nausea is better but still present at meals and with dizziness
- Gastritis improved
- Decr po intake overall despite that
- Using prn olanzapine which helps – asking to take it more regularly
- Ongoing issues with fatigue, limiting ability to get out of bed

**Why Olanzapine?!?**

# CCO Guideline for CINV 2019

New guidelines as of 2019 introduced Olanzapine

Highly Emetic Chemo Prophylaxis now with 4 agents :

1. NK1 RA, (Aripetant)
2. Serotonin Receptor Antagonist (Ondansetron)
3. Dexamethasone
4. Olanzapine 5mg po od

Post chemotherapy : Olanzapine 5mg once daily or 2.5mg bid continued for days 2-4

If at high risk of sedation consider Serotonin Receptor Antagonist instead (Ondansetron)

*2019 Antiemetic Guidelines for CINV, Cancer Care Ontario*

# *Why is Olanzapine first line?*

Broad Receptor Activity:

D2, 5HT2, 5HT3, Alpha1 adrenergic, muscarinic

Easy to take : SL so can't vomit

Long acting : once daily dosing is possible

Increasing evidence : 2022 study on use as second line for bowel obstruction (after ondansetron)

*Olanzapine for Nause and Vomiting, Am J Hosp Palliat Care. 2010 Sep;27(6):432-4*

# *Visit #2 : Outcomes*

- Given that mobilization was an important goal and she was too fatigued to tolerate it, we changed to ondansetron
- Negotiation with patient!
- Plan : Add ondansetron 8mg IV q8hr routinely
- Kept Olanzapine prn

# *Ondansetron : Pros and Cons*

- Considered 4th line in  CCO guidelines  ? Expensive, constipating
- only block 5HT3 receptors
- Great for radiation induced chemotherapy and first line for bowel obstruction
- SL delivery system, 8mg  q8hr
- Consider first line for : GI source, chemical/meds (other than opioids), metabolic abnormalities (Great for renal failure)
- New LU Code for palliative patients : 696

Cancer Care Ontario, Nausea and Vomiting Algorithm

# *Visit #3 : Suggestions*

- Nausea is now only present with sitting upright
- Out of ICU on ward
- Had a few more syncopal episode
- Hadn’t made any progress with physio
- Cont to experience low appetite, fatigue perhaps worse
- Goal is still to get home

# *Survey : What would be your next steps?*

1. Manage Hypotension

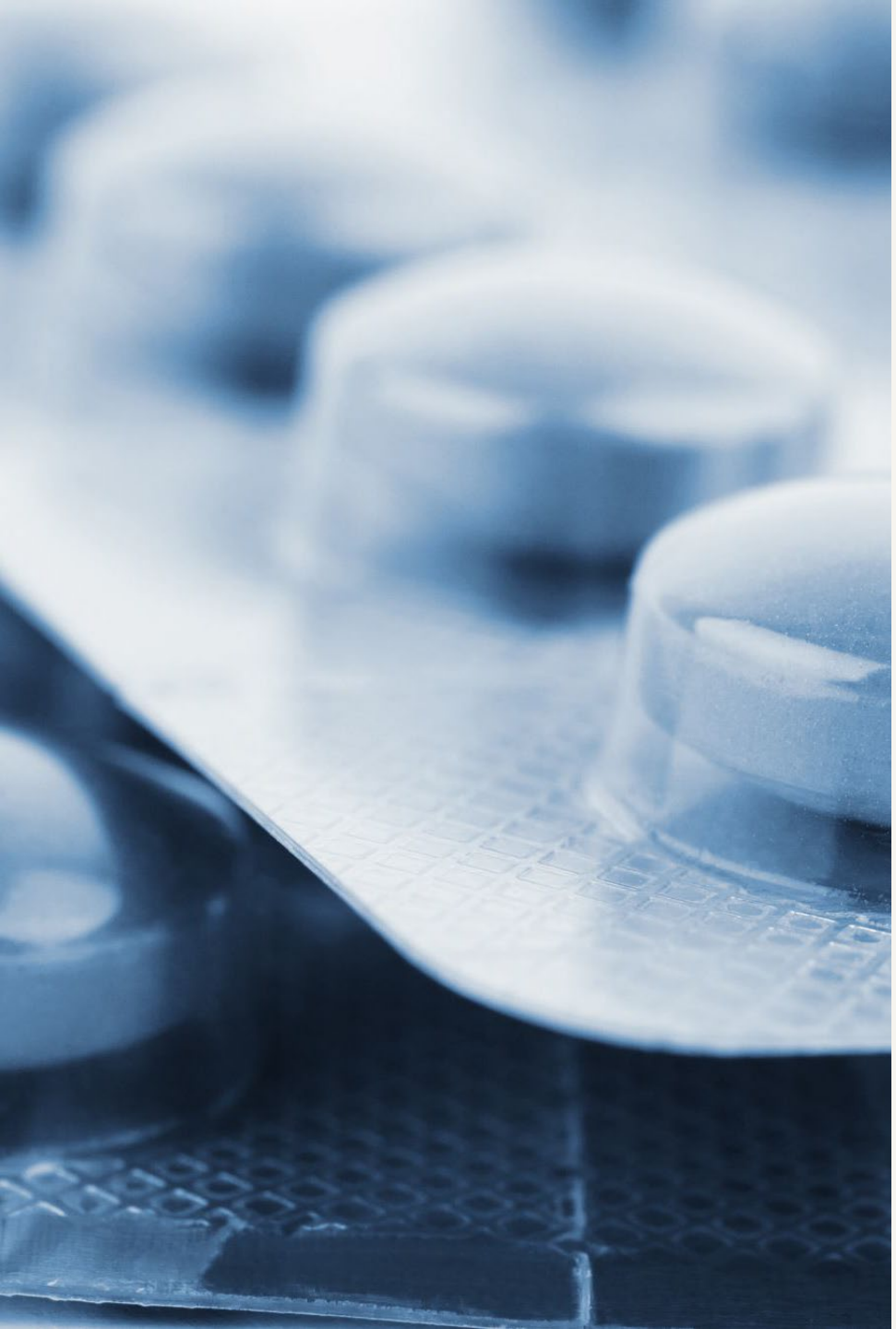
2. Add Dimenhydrinate routinely

3. Add Dexamethasone

4. All of the above

# *Visit #3 : Suggestions*

- Midodrine 10mg po tid
- Postural component could have benefited from dimenhydrinate but didn’t want to add sedation
- Could consider dexamethasone but pt wary of her GI Bleed and severe GERD, wary of sugars being high, also edema still a problem



# A Few Thoughts on Dexamethasone

- Always good to consider as an adjunct!
- Second line in CCO guidelines
- Beneficial S/Es : incr energy, incr appetite, decr inflammation
- Reduces permeability of BBB so helps with nausea
- Start 4-8mg po od
- Some not-so-great S/Es : incr sugars, proximal muscle weakness, insomnia, GERD, edema
- Dose ONCE daily! (Longer half life than prednisone)
- Inhibits efficacy of Immunotherapy at doses >4mg/d so anticipate pushback from oncology

# *Visit #4*

- No more nausea or heartburn!
- Blood pressure improved
- BUT : pt is completely somnolent, not waking up
- Husband assumed it was meds
- Reviewed meds : no change, olanzapine had not been given
- Decision to transfer to local Hospice

# *Hospice Stay : Day 1 in Hospice*

- Admitted to hospice  : nausea returned
- Retching at bedside and hard to get a good hx
- Unable to get po pantoprazole
- Pt experiencing ++ anxiety

# *A Quick thought on Nause at Bedside*

- Blinded RCT of 200 N/V presenting to ER
- Mild-mod nausea, non pregnant
- Intervention : inhale fumes of alcohol swab at bedside
- 1-2cm below nares, breathe in as deeply and frequently as they'd like
- Compared to Ondansetron worked better
- N/V 100pt scale from 50 to 40 with ondansetron, 50 to 20 with ETOH
- Evidence for this in post op nausea, NNT = 8

Worth trying! Bring Alcohol wipes with you!

*Lindblad et al.*, ***Inhaled isopropyl alcohol for nausea and vomiting in the emergency department***, *Canadian Family Physician Vol 64: AUGUST 2018*

# *Hospice day 1 : Plan*

- Goal was to sit up so Continued Midodrine first 48 hours
- Pantoprazole brought from home
- Lorazepam offered for anxiety
- Daily decline – stopped midodrine once no longer sitting up
- Patient stopped eating/drinking and refused any po meds
- Worth continuing antinauseants?

# Current Meds

- Metoclopramide 10mg s/c q6hr
- Ondansetron 8mg S/L q8hr = can give S/C but ++ expensive
- Midodrine 10mg po q6hr = no S/C options but no longer warranted
- Lorazepam 1mg sl q6hr prn = can give S/C
- Pantoprazole 40mg po bid = S/C but ++ expensive

Coincided with incr agitation and secretions

Added Methotrimeprazine and Scopolamine

# *Methotrimeprazine (Nozinan)*

- The most sedating of the antipsychotics
- Excellent for end of life symptoms once NPO
- Can be given po or S/C 6.25-25mg
- Multiple use : dyspnea, nausea, delirium, sedation
- Considered a “Dirty Drug” for  multi receptor antagonism

  *D2,D3,D4*

  *H1 histamine*

  *Serotonin*

  *Alpha 1 adrenergic*

Citation: National Library of Medicine

# *Hysocine (Scopolamine)*

- Anticholinergic
- Antinauseant and good for terminal secretions
- Transderm V – no longer available – for motion sickness
- New evidence that it is great for **preventing** Terminal secretions Consider use routinely once PPS 10%
- Have a low threshold to initiate in final days!

Mercadante S et al.: Hyoscine butylbromide for the management of death rattle: Sooner rather than later.
**J Pain Symptom Manage** 2018;56:902–907

# *Hospice : Final Days*

- Methotrimeprazine 12.5mg sc q6hr routinely : Kept her calm and no retching
- Hysocine 0.4mg sc q4 hr routinely  : secretions subsided
- Hydromorphone 0.5-1mg sc q4hr routinely

- Pt died peacefully the next day

# *Take Home Points*

- Always Look in the Mouth
- Pineapple, Spray bottle, “Magic Mouthwash”
- When in doubt start Metoclopramide
- Dimenhydrinate is great for motion sickness…and not much else
- Have a discussion with your Chemo patients about Olanzapine and change to Ondansetron if they are overly sedated
- Keep antinauseants going at End of Life
- Carry Alcohol wipes in your home visit kits!
- If you decide to have kids you WILL have annual Gastro in your house.