

Preventing and Managing
Chemotherapy-induced Nausea and
Vomiting (CINV): Adhering to Clinical
Guidelines

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Faculty and Planner Disclosures

No relationships pertinent to this activity.

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ASHP staff have no relevant financial relationships to disclose.

Learning Objectives

- Describe a patient's risk for developing CINV taking into consideration personal risk factors and category of chemotherapy emetogenicity.
- Discuss key updates to national and international guidelines on the prevention and management of CINV.
- Recommend treatment options for a patient at risk for developing acute and delayed CINV.
- Design a plan to improve the adherence to CINV guidelines in clinical practice.

Polling Question

What do you think is the most feared side effect of chemotherapy?



Alopecia



Vomiting



Progressive multifocal leukoencephalopathy

Scope of the Problem

- Most feared side effect rankings:

	Overall (N = 255)	Women (n = 153)	Men (n = 102)
Alopecia	1	1	5
Vomiting	2	2	1
Infection	3	3	2
Nausea	4	4	7
Weight loss	4	5	4

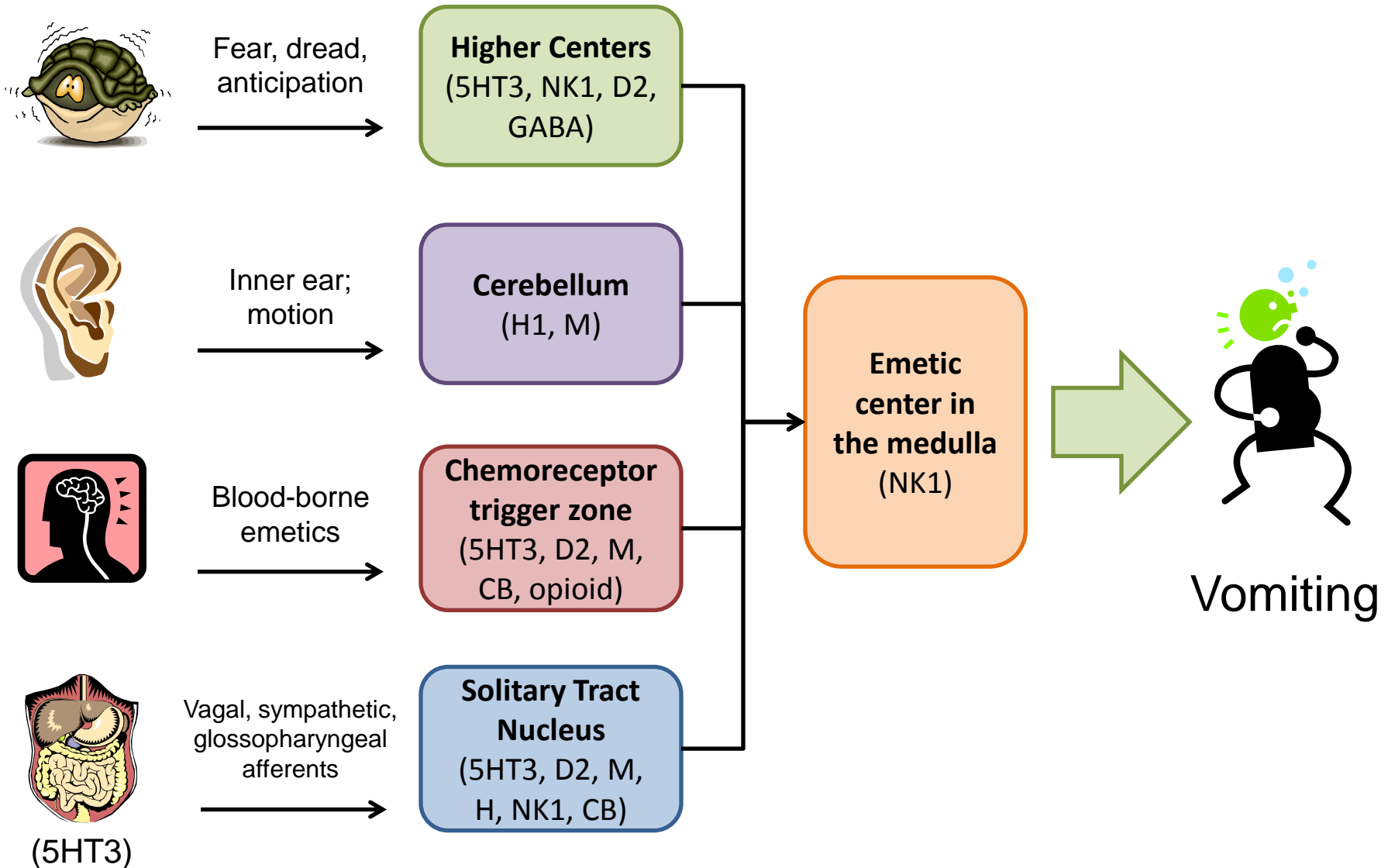
- Vomiting as one of the top 4 side effects:
 - Before chemotherapy: 51%
 - After chemotherapy: 24%



Today's Outline

- Pathophysiology and Pharmacology of CINV
- Drugs and definitions
- CINV risk factors
- Guidelines for CINV
- Adhering to Guidelines
- Conclusion

Pathophysiology Review



Main drugs for today's discussion

- Corticosteroids
 - Dexamethasone
- Serotonin receptor antagonists (5HT₃ RA)
 - Dolasetron
 - Ondansetron
 - Granisetron
 - Palonosetron
- Neurokinin-1 (NK1) receptor antagonists
 - Aprepitant
 - Fosaprepitant



Other Neurotransmitters, Receptors, and Drugs

- Histamine (H1)
 - Diphenhydramine (++++)
 - Promethazine (++++)
 - Prochlorperazine (++)
- Muscarinic acetylcholine receptors (M)
 - Scopolamine (++++)
 - Diphenhydramine (++)
 - Promethazine (++)
- Dopamine (D2)
 - Haloperidol (++++)
 - Metoclopramide (+++)
 - Olanzapine (++++)
 - Prochlorperazine (++++)
 - Promethazine (++)
- Cannabinoid (CB)
 - Dronabinol
 - Nabilone
- GABA
 - Lorazepam

Definitions

- Acute – nausea or emesis that occurs in the first 24 hours after chemotherapy
- Delayed – nausea or emesis that occurs after the first 24 hours after chemotherapy
 - May last up to 2-3 days after chemotherapy administration
 - Commonly seen with cisplatin, carboplatin, cyclophosphamide, ifosfamide, doxorubicin

Definitions

- Anticipatory – nausea or emesis that is a learned reflex response and
 - Triggered by sights, sounds, or smells
 - Due to poor control of nausea or emesis in previous chemotherapy cycles
- Breakthrough – nausea or emesis that occurs despite proper prophylaxis
 - Measured by use of “PRN” medications

CINV Risk Factors: Patient-Specific

- Anxiety, expectation of nausea
- Women > men
- Younger age (i.e., <50 y/o)
- History of motion sickness
- Pregnancy-induced nausea/vomiting
- History of alcohol use
- Anti-emetics inconsistent with guidelines
- Prior chemotherapy and degree of anti-emetic control

CINV Risk Factors: Regimen-Specific

- N/V is a dose-related toxicity
- Single-agent chemotherapy risk categories:
 - High (>90% incidence in acute and delayed)
 - Moderate (30-90% in acute and delayed)
 - Low (10-30% in acute)
 - Minimal (<10% in acute)
- For multi-drug regimens, the drug that has the highest level of emetogenicity determines the regimen's emetic risk level

Emetic Risk Categories

- Original paper: Hesketh PJ, Kris MG, Grunberg SM, et al. *J Clin Oncol*. 1997; 15(1):103-9.
 - Proposed five categories of emetic risk
 - Algorithm for multi-drug chemotherapy
- Updated paper: Grunberg SM, Osoba D, Hesketh PJ, et al. *Support Care Cancer*. 2005;13(2):80-4.
 - Consolidated risk categories
 - No longer “calculate” emetogenicity of multi-drug regimens
- NCCN Guidelines list these:
 - http://www.nccn.org/professionals/physician_gls/f_guidelines.asp#site

Emetic Risk Categories

- High
 - Cyclophosphamide/doxorubicin combination
 - Cisplatin
 - Higher doses of specific chemotherapy agents
- Moderate
 - Carboplatin, oxaliplatin
 - Anthracyclines (relatively lower doses)
 - Nitrogen mustards
- Low
 - Antimicrotubules (e.g., taxanes) and antimetabolites
- Minimal
 - Monoclonal antibodies, vinca alkaloids

Emetic Risk Categories – Oral

- Moderate to high
 - Cytotoxic chemotherapy
 - Crizotinib
- Minimal to low
 - Capecitabine
 - “-nibs”

Overall Emetic Risk



- Overall emetic risk will never be below the regimen's risk level
- The presence of patient risk factors may (or may not) increase the overall emetic risk

Prophylaxis for CINV: General Principles

- Anticipatory
 - Lorazepam if fearful or poor control after previous cycle
- Acute
 - Typically administered IV in the infusion center
- Delayed
 - Some IV drugs will cover delayed
 - May receive prescription to take as **scheduled**
- Breakthrough
 - Should always receive a prescription that is **PRN**
 - Use a different MOA than for prophylaxis

CINV Guidelines

	ASCO ¹	ESMO/MASCC ²	NCCN ³
Expert panel	Select ASCO members	Multinational (10 countries, 5 continents)	Representatives from NCCN member institutions
Multidisciplinary?	Some	High	Some
Methodology	Systematic review	Systematic review	Consensus-based
Last updated	June 2011	Jan 2013	Aug 2013
Comments	Addresses pediatrics and radiation	Multi-organization collaboration	Tied to reimbursement via compendium

1. Basch E, et al. *J Clin Oncol*. 2011; 29(31):4189-98.

2. Roila F, et al. *Ann Oncol*. 2010; 21 (Suppl 5):v232-43.

3. NCCN Clinical Practice Guidelines: Antiemesis. http://www.nccn.org/professionals/physician_gls/pdf/antiemesis.pdf

Single-day Chemotherapy: Prophylaxis Principles

Emetic risk (emesis incidence)	Day 1	Day 2	Day 3	Day 4
High (>90%)	✓✓✓	✓✓	✓✓	✓
Moderate (30-90%)	✓✓	✓	✓	
Low (10-30%)	✓			
Minimal (<10%)				

Guideline Recommendations: High Emetogenicity, Acute

- Day 1 of single-day regimens

Drug	ASCO ¹	ESMO/MASCC ²	NCCN ³
NK1 RA	Yes	Yes	Yes
Dexamethasone	Yes	Yes	Yes
5HT3 RA	Yes	Yes	Yes - palonosetron preferred
Alternate regimen			Olanzapine instead of NK1 RA
Others supportive care	<ul style="list-style-type: none"> • Lorazepam • Diphenhydramine 		Consider: <ul style="list-style-type: none"> • Lorazepam • H2 blocker, PPI

Guideline Recommendations: High Emetogenicity, Delayed

- Days 2 through 4 of single-day regimens

Drug	ASCO ¹	ESMO/MASCC ²	NCCN ³
NK1 RA	Days 2-3	Days 2-3	Days 2-3
Dexamethasone	Days 2-3 or Days 2-4	Days 2-4	Days 2-4
5HT3 RA	No	No	No (palonosetron preferred)
Alternate regimen			Olanzapine instead of NK1 RA
Other supportive care	<ul style="list-style-type: none"> • Lorazepam • Diphenhydramine 		Consider: <ul style="list-style-type: none"> • Lorazepam • H2 blocker, PPI

Case: HEC

- TJ is a 33 year-old woman with a new diagnosis of breast cancer. She is a smoker, drinks socially, and exercises regularly. Her medical history is significant for: hypothyroidism, anxiety, GERD, and nausea during pregnancy.
- She will receive her first cycle of chemotherapy, consisting of:
 - Cyclophosphamide 600 mg/m² IV on day 1
 - Doxorubicin 60 mg/m² IV on day 1
 - Every 21 days for 4 cycles

Case: HEC

- What are her risk factors for developing CINV?
- Will the presence of these risk factors change your strategy for prophylaxis?
- What classes of medications will be utilized in this case?
- What is your antiemetic regimen?

HEC Scenario

	Day 1	Day 2	Day 3	Day 4	Day 5
Chemo	Dox 60 CTX 600				
Emetic risk	High	Delayed	Delayed	Delayed	Delayed
Prophylaxis	✓✓✓	✓✓	✓✓	✓	
Drug Classes	NK1 RA 5HT3 RA Steroid	NK1 RA Steroid	NK1 RA Steroid	Steroid	
Scheduled	Aprep PO Ondan IV Dex IV	Aprep PO Dex PO	Aprep PO Dex PO	Dex PO	
PRN	Benzo H2/PPI Other	Benzo H2/PPI Other	Benzo H2/PPI Other	Benzo H2/PPI Other	Benzo H2/PPI Other

Guideline Recommendations: Moderate Emetogenicity, Acute

- **Day 1** of single-day regimens

Drug	ASCO ¹	ESMO/MASCC ²	NCCN ³
NK1 RA	May add	No	May add
Dexamethasone	8 mg	8 mg	12 mg
5HT3 RA	Yes - palonosetron	Yes - palonosetron	Yes (palonosetron preferred)
Alternate regimen			Olanzapine + 5HT3 RA + Dex
Other supportive care	<ul style="list-style-type: none"> • Lorazepam • Diphenhydramine 		Consider: <ul style="list-style-type: none"> • Lorazepam • H2 blocker, PPI

Guideline Recommendations: Moderate Emetogenicity, Delayed

- Days 2 through 3 of single-day regimens

Drug	ASCO ¹	ESMO/MASCC ²	NCCN ³
NK1 RA	May add	No	Consider one: <ul style="list-style-type: none"> • Nothing if palonosetron used in acute • NK1 RA +/- dex if used in acute • Dex days 2-3
Dexamethasone	Days 2-3	Days 2-3	
5HT3 RA	No (palonosetron preferred)	No (palonosetron preferred)	
Alternate regimen			Olanzapine
Other supportive care	<ul style="list-style-type: none"> • Lorazepam • Diphenhydramine 		Consider: <ul style="list-style-type: none"> • Lorazepam • H2 blocker, PPI

Case: MEC

- TW is a 65 year-old man with a diagnosis of lung cancer. He is a former smoker and non-drinker. Her medical history is significant for: CAD (s/p MI in 2005), HTN, hypercholesterolemia. Today, he is scheduled for his second cycle of chemo, and he reports poor control of the emesis during the previous cycle.
- He is receiving chemotherapy consisting of:
 - Carboplatin AUC = 6 IV on day 1
 - Pemetrexed 500 mg/m² IV on day 1
 - Bevacizumab 15 mg/kg IV on day 1
 - Every 21 days for 4-6 cycles

Case: MEC

- What are his risk factors for developing CINV?
- What additional information would you like to have?
- Which chemotherapy agent in this regimen causes the highest level of emetogenicity?
- What classes of medications will be utilized in this case?
- What is your antiemetic regimen?

MEC Scenario 1

	Day 1	Day 2	Day 3	Day 4	Day 5
Chemo	Carbo 6 Pem 500 Bev 15				
Emetic risk	Moderate	Delayed	Delayed	Delayed	Delayed
Prophylaxis	✓✓	✓	✓		
Drug Classes	5HT3 RA Steroid	Steroid	Steroid		
Scheduled	Palon IV Dex IV	Dex PO	Dex PO		
PRN	Benzo Other	Benzo Other	Benzo Other	Benzo Other	Benzo Other

MEC Scenario 2: If treated by Scenario 1 already

	Day 1	Day 2	Day 3	Day 4	Day 5
Chemo	Carbo 6 Pem 500 Bev 15				
Emetic risk	Moderate	Delayed	Delayed	Delayed	Delayed
Prophylaxis	✓✓✓	✓✓	✓✓	✓	
Drug Classes	NK1 RA 5HT3 RA Steroid	NK1 RA Steroid	NK1 RA Steroid	Steroid	
Scheduled	Aprep PO Palon IV Dex IV	Aprep PO Dex PO	Aprep PO Dex PO	Dex PO	
PRN	Benzo Other	Benzo Other	Benzo Other	Benzo Other	Benzo Other

CINV: Low and Minimal

- Low

	ASCO ¹	ESMO/MASCC ²	NCCN ³
Administer one dose before chemo:	Dexamethasone 8 mg	Dexamethasone -OR- 5HT3 RA -OR- Dopamine RA (metoclopramide)	Dexamethasone -OR- 5HT3 RA -OR- Dopamine RA (metoclopramide, prochlorperazine)

- Minimal

- No routine prophylaxis

Polling Question

Is it appropriate to use palonosetron for the prevention of CINV in low emetic regimens?



Yes



No



Don't know

Something for PRN (Breakthrough)

- Attack a different receptor
 - Prochlorperazine 10 mg IV/PO Q6 hr PRN 😊
 - Metoclopramide 10-40 mg IV/PO Q4-6 hr PRN 😊
 - Promethazine 12.5-25 mg IV/PO Q4 hr PRN
 - 5HT3 dosing varies (just make sure it's not above the max recommended dose per day)
 - Haloperidol 0.5-2 mg PO Q4-6 hr PRN
 - Dronabinol 5-10 mg PO Q3-6 hr PRN
 - Nabilone 1-2 mg PO BID PRN
 - Dexamethasone 12 mg PO/IV daily if not already given
 - Olanzapine 10 mg PO daily for 3 days
 - ~~Droperidol 2.5-5 mg IV Q4-6 hr PRN~~ 😞

Big 3 Dosing Pearls

- NK1 receptor antagonists
 - **PO**: Aprepitant 125 mg 1 hour before chemotherapy on day 1, then 80 mg on days 2 and 3
 - **IV/PO**: Fosaprepitant 115 mg IV 30 minutes before chemotherapy on day 1, then aprepitant 80 mg PO on days 2 and 3
 - **IV**: Fosaprepitant 150 mg IV 30 minutes before chemotherapy on day 1 (this is like giving 3 days of aprepitant)
- 5HT3 receptor antagonists
 - Palonosetron has a long half-life (30-40 hours); like giving multi-day doses of short half-life 5HT3 RAs
 - Doses of other 5HT3 RAs have been going down
- Dexamethasone
 - Dose is generally 8-16 mg/day
 - Upwards of 20 mg used without aprepitant/fosaprepitant

Dosing Scenarios

- **High Emetogenicity Chemotherapy (HEC)**

	Day 1	Day 2	Day 3	Day 4
NK1 RA	Fosaprep 150 mg IV	No further dosing needed		
Dex	12 mg IV	8 mg PO	8 mg PO	8 mg PO
5HT3 RA	Yes	No	No	No

- **Moderate Emetogenicity Chemotherapy (HEC)**

	Day 1	Day 2	Day 3	Day 4
NK1 RA	No	No	No	
Dex	8 mg IV/PO	8 mg PO	8 mg PO	
5HT3 RA	Palonosetron 0.25 mg IV			

- PRN for breakthrough required through all days
- Consider lorazepam and acid suppression

Common Adverse Effects by Drug Class

- NK1 Receptor Antagonists
 - Somnolence/fatigue
 - Hiccups
 - Diarrhea
- 5HT3 Receptor Antagonists
 - Headache
 - Constipation
 - QT interval prolongation (dose-related)

Common Adverse Effects by Drug Class

- Steroids (i.e., dexamethasone)
 - Insomnia/hyperactivity
 - Steroid psychosis: agitation, anxiety, irritability, restlessness, mania, delirium, hallucination, etc.
 - Increase in blood sugar
 - Gastrointestinal

Common Adverse Effects by Receptor Modulation

- Dopamine Antagonists
 - Extrapyrarnidal side effects (e.g., dystonia)
 - Drowsiness/dizziness
- Histamine Antagonists
 - Drowsiness/dizziness
- Muscarinic Antagonists
 - Drowsiness/dizziness
 - Dry mouth, blurred vision, etc.
- Cannabinoid receptors
 - Hallucinations
 - Other CNS side effects

Adverse Effect Clinical Pearls

- Use steroids with caution in diabetics
- Premedication with prochlorperazine can mitigate side effects from cannabinoids
- Prochlorperazine vs. Promethazine
 - Prochlorperazine: D > H
 - EPS > drowsiness
 - Promethazine: H > D
 - Drowsiness > EPS
- Metoclopramide inhibits 5HT₃ at high doses, but causes bad EPS (do not use it like this!)

Multiday Chemotherapy Regimens

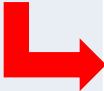
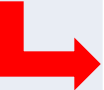
- E.g., Cisplatin 25 mg/m² and etoposide 100 mg/m² on days 1, 2, & 3; every 3 week cycle
- Basic principles:
 - No good evidence; not systematically addressed in GLs
 - Consider the risk of acute emesis every day that chemotherapy is given
 - Consider drugs that may cause delayed emesis and note timing
 - Patients may be at risk for both acute AND delayed on specific days of the cycle

1. Basch E, et al. *J Clin Oncol*. 2011; 29(31):4189-98.

2. Roila F, et al. *Ann Oncol*. 2010; 21 Suppl 5:v232-43.

3. NCCN Clinical Practice Guidelines: Antiemesis. http://www.nccn.org/professionals/physician_gls/pdf/antiemesis.pdf

Multiday Chemo Scenario

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Cisplatin	High	High	High	Delayed	Delayed	Delayed
	Dex NK1 RA 5HT3 RA	Dex NK1 RA 5HT3 RA	Dex NK1 RA 5HT3 RA	Dex NK1 RA	Dex NK1 RA	Dex
Etoposide	Low	Low	Low			
	Dex	Dex	Dex			
Final Antiemetic regimen	Dex IV Aprep PO Ondan IV	Dex IV Aprep PO Ondan IV	Dex IV Aprep PO Ondan IV	Dex PO Aprep PO*	Dex PO Aprep PO*	Dex PO

*Unlabeled use based on the reference: Jordan K, et al. *Eur J Cancer*. 2009;45(7):1184-7.

Antiemetic Dosing Concerns: Multi-day Chemo

- 5HT3 RAs:
 - Palonosetron every other day dosing (e.g., days 1, 3, and 5)
 - Consider long-acting formulations
- NK1 RAs:
 - Optimal duration not yet defined
 - Daily for 5 days?
 - Starting on Day 3 of a 5-day regimen?

1. Basch E, et al. *J Clin Oncol*. 2011; 29(31):4189-98.

2. Roila F, et al. *Ann Oncol*. 2010; 21 Suppl 5:v232-43.

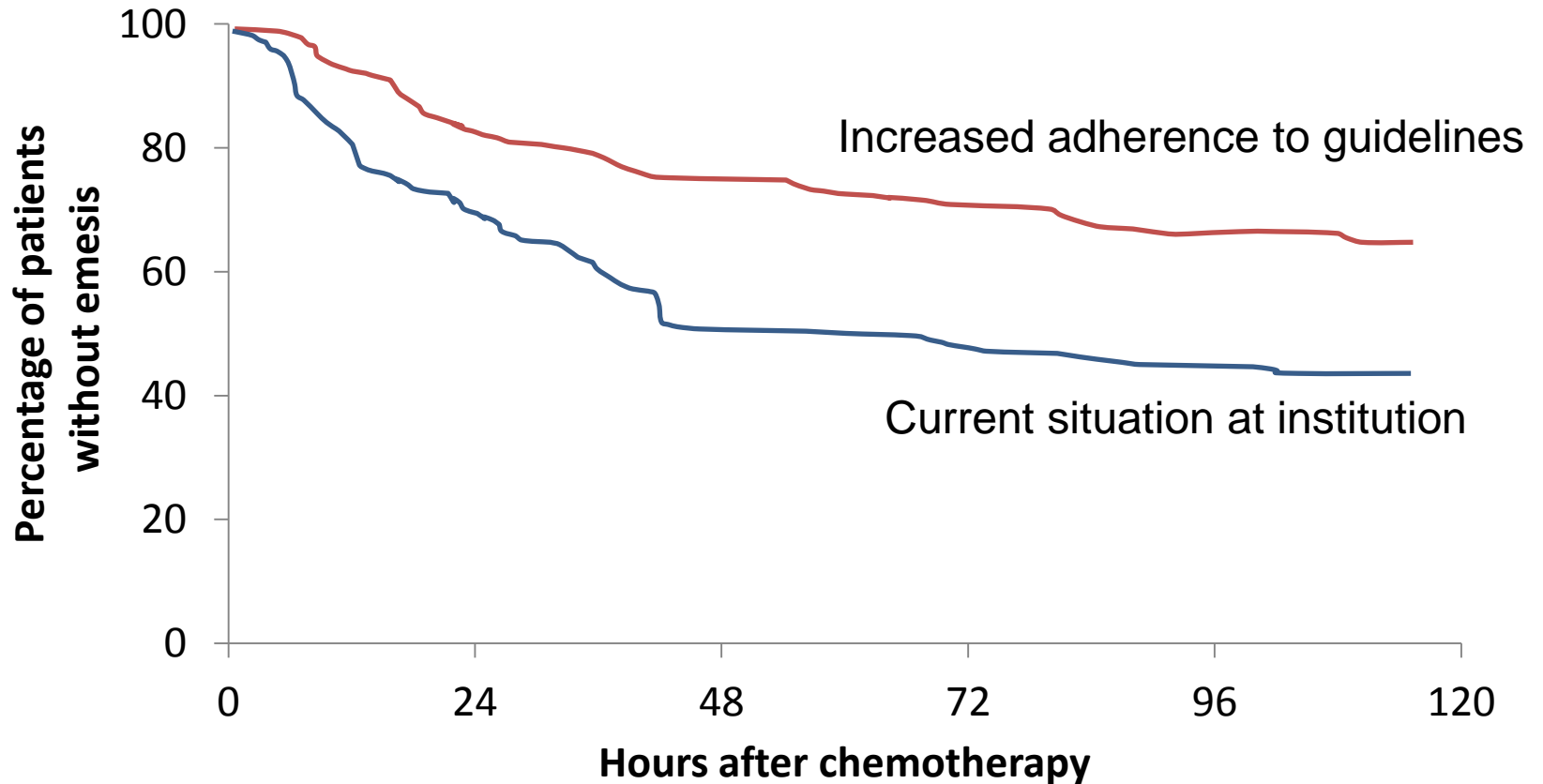
3. NCCN Clinical Practice Guidelines: Antiemesis. http://www.nccn.org/professionals/physician_gls/pdf/antiemesis.pdf



ADHERING TO CINV GUIDELINES

Adherence to Guidelines: Bending the Curve

Emesis Survival Curve – High Emetogenicity



Polling Question

At my institution, our adherence to CINV guidelines is:



High



Acceptable



Low



Don't know

What are CINV adherence rates?

- Study 1:
 - Adherence to ESMO/MASCC guidelines
 - Chart review of 299 patients between Nov 2008-April 2009
- Study 2:
 - Population-based study of patients in the Texas Cancer Registry-Medicare-linked database (2001-2007)
 - 4,566 patients with lung cancer

Study 1: Burmeister H, et al. *Support Care Cancer*. 2012;20(1):141-7.

Study 2: Gomez DR, et al. *Cancer*. 2013; 119(7):1428-36.

CINV Adherence Rates: Study 1

- Overall adherence rate to ESMO/MASCC recommendations:
 - Acute: 61% (181/299)
 - Delayed: 11% (17/148)
- High emetogenicity
 - Day 1 adherence: 71% (69/97) – mostly incorrect use of aprepitant
 - Day 2 and 3 adherence: 20% and 35% - overuse of 5HT3 RA
 - Corticosteroid use was mostly appropriate (did not lower dose for aprepitant)

CINV Adherence Rates: Study 1

- Moderate emetogenicity
 - Day 1 adherence: 66% (66/100) – incorrect use of NK1 antagonist
 - Day 2 and 3 adherence: 33% and 52% - overuse of 5HT3 RA
- Low emetogenicity
 - 11% adherence (6/54) – too many drugs

CINV Adherence Rates: Study 1

- Predictors of non-adherence
 - Low and moderate emetogenicity
 - Better adherence:
 - Higher age
 - Solid tumors
 - Inpatient
- Summary
 - Adherence not optimal
 - 5HT3 antagonists an issue!
 - Some issues with NK1 antagonists

CINV Adherence Rates: Study 2

- Overall adherence rate to NCCN recommendations:
 - Cisplatin-based (High)
 - 5HT3: 78% adherence
 - Dexamethasone: 65% adherence
 - Aprepitant: too low to count (n < 11)
 - Carboplatin-based (Moderate)
 - 5HT3: 83% adherence
 - Dexamethasone: 66% adherence
 - Aprepitant: too low to count (n < 11)

CINV Adherence Rates: Study 2

- Adherence to 5HT3 RA and Dexamethasone trended upward with time
- Predictors of adherence/non-adherence
 - Race
 - Income (higher = more adherence)
 - Education (higher = more adherence)
 - Comorbidity

Data with Adherence

- Prospective, observational, multicenter study in patients with solid tumors receiving HEC or MEC
- Two cohorts:
 - Guideline-consistent (GC), n = 287
 - Guideline-inconsistent (GI), n = 704
- GC had higher rates of:
 - Complete response: 60% vs. 51%; p = 0.008
 - No emesis: 63% vs. 59% (NS)
 - No nausea: 48% vs. 41% NS)
 - No CINV: 43% vs. 34%; p = 0.016



Barriers to Guideline Implementation & Adherence

- Lack of knowledge of guideline recommendations
- Differences in guideline recommendations – confusion
- Cost/financial
- Education of healthcare providers
- Institutional enforcement
- Measuring quality of care & outcomes

Systematic Review: What works to implement guidelines?

- Effective
 - Decision support systems
 - Interactive educational meetings (e.g., tumor boards)
 - Educational outreach (detailing)
 - Procedural justification
 - Reminder system
 - Multi-faceted interventions

Systematic Review: What works to implement guidelines?

- Inconsistent effectiveness
 - Audits, feedback, or peer review
 - Education (CME)
 - Financial incentives
 - Local opinion leaders
- Ineffective
 - Dissemination-only information
 - Traditional education (e.g., grand rounds)

Any evidence with CINV?

Institution #1

- Steps:
 - Developed local guidelines (included RPh)
 - Education
 - Prospectively monitored adherence
 - Provided adherence/outcome data to prescribers
- Results
 - Baseline adherence was poor
 - Improved with guideline dissemination (not sustained)
 - Sustained improvement with outcome data sharing

Any evidence with CINV?

Institution #2

- Steps:
 - Formed multidisciplinary group (including RPh) to develop institutional guidelines
 - Guideline dissemination and education
 - Guideline enforcement: called prescriber
 - Pharmacist-managed option: “Antiemetics per Guidelines”
 - Preprinted order forms
- Results:
 - Good patient-reported satisfaction rates
 - Good adherence after pharmacist-driven ordering (>98%)

Pre-Printed Order Sets

DRUG REGIMEN PRE/INTRA/POST	DOSE, ROUTE, FREQUENCY		
ANTIEMETIC	<input type="checkbox"/> <u>Ondansetron</u> (Zofran) _____ mg _____ (IV/PO) 30 minutes before chemotherapy on day(s)_____		
	<input type="checkbox"/> Aprepitant (Emend) 125 mg PO 1 hour before chemotherapy on day 1, then 80 mg PO daily on days 2-3 (Inpatient only! If outpatient, the patient should use own supply)		
	<input type="checkbox"/> <u>Prochlorperazine</u> 10 mg PO every 4-6 hours PRN nausea/vomiting		
	<input type="checkbox"/> Other:		
CORTICOSTEROID	<input type="checkbox"/> Dexamethasone _____ mg _____ (IV/PO) 30 minutes before chemotherapy on day 1		
	<input type="checkbox"/> Dexamethasone _____ mg PO _____ (daily/BID) on days 2-4		
ANTI-HISTAMINE	<input type="checkbox"/> Diphenhydramine (Benadryl) _____ mg _____ (IV/PO) 30 minutes before chemotherapy on day: _____		
OTHER	<input type="checkbox"/> Ranitidine (Zantac) 50 mg IV 30 minutes before chemotherapy on day: _____		
Physician Signature:		Date:	Time:

Other Resources

- NCCN Chemotherapy Order Templates
 - Preview:
<http://www.nccn.org/images/ChemTemplatePreview2.pdf>
- MASCC Antiemesis Tool© (MAT)
 - <http://www.mascc.org/mat>



Implementing Guidelines: Summary

- Local guideline development
- Education of providers
- Decision support is probably the most powerful tool
 - Pre-printed order templates (paper)
 - CPOE
- Challenges
 - Software for ordering systems
 - Updating of order sets
 - Lack of centralized authority

Polling Question

How do you feel about using pre-defined order sets to maximize adherence to CINV GLs?



Love it!



Hate it!



Love-hate relationship!



Conclusion

- CINV is an important side effect to manage
- Guidelines are available from many institutions and authoritative groups
- Institutions should create their own guideline and implementation process
- Use of decision-support tools is key

Self-Assessment Questions

- Which of the following is NOT a patient-specific risk factor for chemotherapy-induced nausea and vomiting?
 - A. Age
 - B. History of previous surgery
 - C. Gender
 - D. History of alcohol use

Self-Assessment Questions

- The ASCO, ESMO/MASCC, and NCCN guidelines all prefer _____ as the 5HT3 receptor antagonist of choice to be given on day 1 of **moderately emetogenic chemotherapy**.
 - A. Dolasetron
 - B. Granisetron
 - C. Ondansetron
 - D. Palonosetron

-

Self-Assessment Questions

- Which of the following regimens best describes the **Day 1 antiemetic regimen** that should be prescribed for a patient receiving **highly emetogenic chemotherapy**?
 - A. Dexamethasone alone
 - B. Dexamethasone + 5HT3 receptor antagonist
 - C. Dexamethasone + 5HT3 receptor antagonist + NK1 receptor antagonist
 - D. No routine antiemetics are necessary

Self-Assessment Questions

- Based on a systematic review of the evidence, which of the following strategies have been shown to be effective in incorporating treatment guidelines into practice?
 - A. Decision support systems
 - B. Multifaceted interventions
 - C. Traditional educational session (e.g., grand rounds)
 - D. A and B

Self-Assessment Questions

- Based on published reports of institutional experience with implementing CINV guidelines, the strategies that seemed to work best was:
 - A. Allowing pharmacists to order antiemetics with an “Antiemetics per Guidelines” checkbox
 - B. Providing lectures about CINV at grand rounds
 - C. Offering financial incentives to prescribers for adherence
 - D. Brining in local opinion leaders to educate prescribers

Thank you for joining us.

- Join me again on March 6, 2014 for a live “Ask the Experts” Webinar where I will explore issues raised by participant questions from ASHP Midyear.
- See: <http://www.cemornings.com/>