CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING PROPHYLAXIS

The recommended approach for the prevention and management of chemotherapy-induced nausea and vomiting (CINV) varies by the emetic risk of the treatment regimen. Adherence to antiemetic guidelines has resulted in improved control of nausea and vomiting, and improved adherence to chemotherapy regimen. The ASCO guideline provides updated recommendations for the prevention and management of nausea and vomiting due to antineoplastic agents for cancer.

ANTIEMETIC REGIMENS

Emetic risk category[1,2]	Drug regimen
High emetic risk	NK_1 receptor antagonist + 5-HT_3 receptor antagonist + dexamethasone + olanzapine
Moderate emetic risk[3]	5-HT_3 receptor antagonist + dexamethasone
Low emetic risk	5-HT_3 receptor antagonist **OR** dexamethasone
Minimal emetic risk	No routine antiemetic prophylaxis
Breakthrough/Refractory	Add to standard antiemetic regimen: olanzapine or drug of a different class or benzodiazepine or dopamine receptor antagonist or cannabinoids

ANTIEMETIC DOSING

Drug	Day 1[4]	Day 2	Day 3	Day 4
HIGH RISK				
NK_1 receptor antagonist[3]				
Aprepitant **OR**	125mg PO or 130mg IV	80mg PO (if oral aprepitant on Day 1)	80mg PO (if oral aprepitant on Day 1)	
Fosaprepitant **OR**	150mg IV			
Rolapitant **OR**	180mg PO			
Fosnetupitant-palonosetron[5]	235mg/0.25mg IV			
Netupitant-palonosetron[5]	300mg/0.5mg PO			
5-HT_3 receptor antagonist[5]				
Granisetron **OR**	2mg PO **OR** 1mg or 0.01mg/kg IV **OR** 1 patch **OR** 10mg SC			
Ondansetron **OR**	24mg PO (tabs or soluble film) **OR** 8mg or 0.15mg/kg IV			
Palonosetron **OR**	0.25mg IV			
Dolasetron	100mg PO			
Corticosteroid				
Dexamethasone[6]	12mg PO or IV[7]	8mg PO or IV[7,8,9]	8mg PO or IV[7,8,9]	8mg PO or IV[7,8,9]
Atypical Antipsychotic				
Olanzapine	10mg or 5mg PO	10mg or 5mg PO[8]	10mg or 5mg PO[8]	10mg or 5mg PO[8]
MODERATE RISK[3]				
5-HT_3 receptor antagonist				
Granisetron **OR**	2mg PO **OR** 1mg or 0.01mg/kg IV **OR** 1 patch **OR** 10mg SC			
Ondansetron **OR**	8mg PO twice daily **OR** 8mg soluble film twice daily **OR** 8mg or 0.15mg/kg IV			
Palonosetron **OR**	0.50mg PO **OR** 0.25mg IV			
Dolasetron	100mg PO			
Corticosteroid				
Dexamethasone[3]	8mg PO or IV	8mg PO or IV[10]	8mg PO or IV[10]	
LOW RISK				
5-HT_3 receptor antagonist				
Granisetron **OR**	2mg PO **OR** 1mg or 0.01mg/kg IV **OR** 1 patch **OR** 10mg SC			
Ondansetron **OR**	8mg PO (tab or soluble film) **OR** 8mg IV			
Palonosetron **OR**	0.25mg IV			
Dolasetron	100mg PO			
Corticosteroid				
Dexamethasone	8mg PO or IV			

NOTES

Key: $5HT_3$ = 5-hydroxytryptamine-3 (serotonin); **AUC** = area under the curve; **CINV** = chemotherapy induced nausea and vomiting; **IV** = intravenous; **NK_1** = neurokinin 1; **PO** = oral; **SC** = subcutaneous

[1] For emetic risk category of chemotherapeutic agents, see "Emetogenic Potential of Antineoplastic Agent" chart.

[2] Adults treated with antineoplastic combinations should receive the antiemetic regimen appropriate for the component antineoplastic agent of greatest emetic risk.

[3] For adults treated with carboplatin AUC ≥4mg/mL (emetic risk is at the higher end of the moderate-emetic risk category), add NK_1 receptor antagonist for a 3-drug regimen. Dexamethasone dosing is Day 1 only: 20mg with rolapitant, and 12mg with aprepitant, fosaprepitant, or netupitant-palonosetron.

[4] Give antiemetic regimen on the day of chemotherapy (single-day) before the dose of the antineoplastic agent. For multi-day chemotherapy, first determine the emetic risk of the agent(s) included in the regimen. Patients should receive the agent of the highest therapeutic index daily during chemotherapy and for 2 days thereafter. Granisetron transdermal patch or granisetron ext-rel inj, which deliver therapy over multiple days rather than a daily 5-HT_3 receptor antagonist, can be given.

[5] If netupitant-palonosetron or fosnetupitant-palonosetron is used, no additional 5-HT_3 receptor antagonist is needed.

[6] Dexamethasone dosing is for patients receiving the recommended 4-drug regimen for high-emetic risk. If NK_1 receptor antagonist was omitted, the dexamethasone dose should be adjusted to 20mg on Day 1 and 16mg on Days 2–4.

[7] If rolapitant is used, give with dexamethasone 20mg PO or IV on Day 1, and 8mg PO or IV twice daily on Days 2–4.

[8] For cisplatin and other high-emetic-risk single agents, dexamethasone and olanzapine should be continued on Days 2–4. For anthracycline + cyclophosphamide regimens, only continue olanzapine on Days 2–4.

[9] If fosaprepitant is used, give with dexamethasone 8mg PO or IV on Day 2, and 8mg PO or IV twice daily on Days 3–4.

[10] For moderate-emetic risk agents that are known to cause delayed nausea & vomiting (eg, cyclophosphamide, doxorubicin, oxaliplatin), may continue dexamethasone on Days 2–3.

REFERENCES

Hesketh PJ, Kris MG, Basch E, et al. Antiemetics: ASCO Guideline Update. *J Clin Oncol.* 2020;38(24):2782-2797. doi:10.1200/JCO.20.01296

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