

FACT SHEET

NAUSEA AND VOMITING TRIGGERED BY CANCER CHEMOTHERAPY

Cancer is treated with a variety of therapeutic approaches such as radiation, surgery and chemotherapy -- depending on the type of cancer and the stage at which it is diagnosed. Patients have consistently identified nausea and vomiting among the most distressing side effects of cancer chemotherapy.¹ Nausea and vomiting are among the most feared side effects of cancer chemotherapy that can lead to considerable distress and disruption in daily activities. This may cause patients to consider stopping further cancer treatment.²

Description

- Chemotherapy-induced nausea and vomiting (CINV) results from the use of certain drugs to treat cancer.
- Nausea and vomiting that is caused by chemotherapy is classified according to the timing of symptoms relative to chemotherapy administration:
 - Acute CINV— occurs within the first 24 hours (Day 1) following chemotherapy. It typically begins 1 to 4 hours after chemotherapy administration and peaks at 4-12 hours.³
 - Delayed CINV— symptoms appear after Day 1 of chemotherapy (from 25 – 120 hrs or Days 2-5) and can last up to approximately 5 to 7 days.⁴

Nausea and vomiting caused by chemotherapy is a complex process that is not fully understood but involves the release of various neurotransmitters in the brain and GI tract.⁵

Prevalence

- Highly emetogenic chemotherapy (HEC) causes nausea and vomiting in 90 percent or more of patients who do not receive anti-emetic medications prior to treatment.⁶ The chemotherapy drug cisplatin, when administered in high doses ($\geq 50 \text{ mg/m}^2$), is an example of highly emetogenic chemotherapy.⁷
- Moderately emetogenic chemotherapy (MEC) is defined as triggering vomiting in 60 to 90 percent of patients who do not receive anti-emetic medications prior to treatment.
- Approximately 50 percent of all patients receiving highly emetogenic chemotherapy experience delayed nausea and vomiting despite the use of current anti-vomiting medicines.⁸
- Risk factors for developing CINV include being female, being younger than 30 at the time of therapy, having a history of motion sickness, and having a history of minimal or no alcohol consumption.⁹

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- ¹ De Boer-Dent M, De Wit R, Schlitz PIM, Djontono J, V Beurden V, Stoter G, Verweij J. "Patient perceptions of the side effects of chemotherapy: the influence of 5HT3 antagonists." Br J Cancer 1997;76 (8): 1055-1061.
- ² Berger AM, Clark-Snow RA. "Adverse Effects of Treatment, Nausea and Vomiting." Cancer: Principles and Practice of Oncology. Ed. DeVita VT, Hellman S, Rosenberg SA. Philadelphia: Lippincott-Raven, 1997.
- ³ Grunberg SM, Hansen M., et al. "incidence and Impact of Nausea/Vomiting with Modern Antiemetics: Perception vs Reality. 37th annual meeting of the American Society of Clinical Oncology (ASCO), abstract 996 (2002).
- ⁴ "Nausea and Vomiting Treatment Guidelines for Patients with Cancer." National Comprehensive Cancer Network Version 1 (2001): 1-35.
- ⁵ Davis, Marvin W. "pathophysiology and Pharmacotherapy of Nausea and Emesis." Drug Topics 18 October 1999: 96-105.
- ⁶ Gralla RJ, Osoba D, Kris MG et al. "Recommendations for the Use of Antiemetics: Evidence-Based Clinical Practice Guidelines. J Clin Oncol 1999; 17 (9): 2971-2994.
- ⁷ Perez EA. "5HT3 Antiemetic Therapy for Patients with Breast Cancer." Breast Cancer Res Treat 57 (1999): 207-214.
- ⁸ Grunberg SM et al. "Incidence of chemotherapy-induced nausea and emesis after modern antiemetics: perception vs. reality" Cancer 2004; 100(10):2261-2268
- ⁹ Berger AM, Clark-Snow RA. Adverse effects of treatment. In: DeVita VT Jr, et al, eds. Cancer: Principles & Practice of Oncology. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2005:2515–2523.

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