



Searching for perfection: further progress in management of chemotherapy-induced nausea and vomiting—introduction

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Emesis is an evolutionary reflex designed to protect the body from ingested toxins. Many treatments, including chemotherapeutic agents, to varying degrees, are also felt to be toxins by the body and can elicit an immediate or delayed reaction involving nausea and vomiting. Chemotherapy-induced nausea and vomiting (CINV) is a common side effect of many anticancer therapies and significantly reduces patient quality of life [1]. CINV can also lead to treatment interruption, dose reduction, and early discontinuation, which compromise the effectiveness of these therapies and negatively impacts long-term patient outcomes. Significant gains in the prevention and management of CINV have emerged over the last two decades. Without antiemetic prophylaxis, more than 90% of patients receiving highly emetogenic chemotherapy (HEC) are at risk for emesis [2, 3]. In contrast, a recent meta-analysis of clinical trials investigating modern-day antiemetic therapy in patients receiving HEC showed rates of vomiting and significant nausea ranging from approximately 10 to 40% [4]. The achievements in CINV prophylaxis are reflected in a worldwide online survey conducted by the American Society of Clinical Oncology (ASCO) in 2014, in which antiemetic therapy was voted one of the “Top 5 Advances in Modern Oncology” [5].

From a patient’s perspective, even a short duration of nausea or a few vomiting events can be very troublesome and represent an unacceptable outcome. Thus, the goal for CINV management should be complete control of both nausea and vomiting, an achievement that remains elusive for many patients. CINV is classified into five main types: acute, delayed, breakthrough, anticipatory, and refractory [1]. Events occur-

ring within 24 h following chemotherapy administration are considered acute and often peak at 5 to 6 h post-chemotherapy. Delayed CINV occurs on days 2 to 5, and sometimes beyond due to disruption of normal small bowel peristalsis, and has historically been more difficult to prevent. Despite appropriate prophylactic treatment, some patients experience breakthrough CINV during chemotherapy or refractory CINV in subsequent cycles of therapy and require more aggressive antiemetic therapy. Anticipatory CINV is perhaps the most challenging class to address and occurs as a conditioned response resulting from a negative experience with CINV in previous cycles of chemotherapy. Environmental cues, such as the sights and smells of the clinic, and patient anxiety can also contribute to anticipatory CINV.

Important advances in the last 25 years have revolutionized the prevention and management of CINV, allowing patients to complete their chemotherapy course and continue their daily activities. However, CINV remains a substantial clinical challenge and unmet needs persist, as discussed by Dr. Matti Aapro in the first article of this supplement. Current prevention and management of CINV is informed by a number of consensus guidelines, which are continuously updated to reflect the evolution in this area of supportive care [2, 6, 7]. In the second article, Dr. Mark Clemons will highlight important updates to current CINV guidelines and discuss emerging risk prediction models seeking to improve the individualization of antiemetic therapy. Dr. Lee Schwartzberg will then provide an overview of recent clinical trial data focused on the different classes of antiemetic therapy and how these agents impact the CINV landscape. Lastly, Dr. David Warr will provide expert insights into two challenging clinical scenarios in CINV to emphasize the important factors to consider when selecting optimal antiemetic prophylaxis and managing breakthrough CINV.

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Compliance with ethical standards

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