Prevalence of Chemotherapy-Induced Nausea and Vomiting: An Algerian Study

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Abstract
Prevalence of chemotherapy-induced nausea and vomiting Prospective study at Kasr El Hiran hospital in Laghouat the objective was to study the prevalence of chemotherapy-induced nausea and vomiting (CINV), determine if the prescriptions in our department comply with the recommendations of expert societies, and evaluate the influence of certain patient-specific factors on the occurrence of CINV. This is a prospective observational study conducted at the day hospital of the medical oncology service at EPH Kasr El Hiran Laghouat, spanning a period of 3 months from September 21 to December 21, 2022. At the end of this study, 50 women and 18 men were interviewed, with a mean age of 49.40 years. Breast cancer was the most frequent underlying neoplastic pathology (50%). The majority of chemotherapy protocols used were classified as low emetic risk (44.11%). The prevalence of CINV was 79%, of which 51.9% occurred in the delayed phase. According to our results, none of the risk factors appear to have an influence on the prevalence of CINV, and the prescriptions are not in compliance with the recommendations of expert societies. Our results indicate that the management of CINV remains overall unsatisfactory and could be improved by providing increased accessibility to aprepitant.

Introduction
Chemotherapy is the most effective and widely used treatment in most types of malignant tumors, its purpose is to inhibit cell proliferation and tumor multiplication, thus avoiding metastases. Chemotherapy drugs were thought to specifically destroy only cancer cells, but it is now well known that they also damage normal cells, which leads to side effects such as nausea and vomiting.

Definition
Chemotherapy-induced nausea and vomiting (CINV) is one of the adverse effects feared by patients starting cancer chemotherapy [1]. There is a gap between the perception of patients and that of caregivers that can be detrimental in the optimization of antiemetic treatments [2]. Poor control of CINV has a major impact on quality of life, activities daily life, professional activities, social and relational life. NVCI can be responsible for serious metabolic complications: functional renal failure, sequelae chronic renal failure, ionic disorders, weight loss, malnutrition [3]. Nausea and vomiting induced (NVI) by anticancer therapies represent a frequent fear of patients treated for neoplasia and still sometimes constitute a barrier to the relationship of trust between patient and practitioner [4].

Prevalence of CINV
The main objective in this study was to see the prevalence of nausea and vomiting induced by chemotherapy in the oncology department at the EPH
by Kasr Elhirane. We reported in our study 68 cases; of which 79.4% (n=54) reported having suffered nausea and vomiting related to their chemotherapy treatment. Among of these patients, 35.1% experienced only nausea, while 64.8% experienced both nausea and vomiting. Generally speaking, the prevalence of these systemic conditions is high overall. in the different series:

- In Morocco the prevalence was 44% which is lower than that found in our study [2]
- In France the prevalence was 50% which is slightly lower than that found in our study [5]
- Asian Countries the incidence was 60% which is slightly lower than that found in our study [6]
- In Jordan the incidence was 72%, which is similar to that found in our study [7]

This slight difference in prevalence can be explained by: the unavailability of antiemetic medications used to prevent CINV, such as aprepitant in our case.

**Types of Cancers**

The patients interviewed mainly had breast cancer (50%). Others pathologies found, in order of frequency, are: musculoskeletal sarcomas (11.8%), colon cancer (7.4%), cavum cancer (5.9%) and cancer (figure 1). Bronchopulmonary (5.9%), stomach and endometrial cancer (4.4% each), cancer of the liver, bladder, ovary, esophagus, rectum, larynx, and tongue (1.5% each).

![Figure 1 : Type of Cancer in Our Study](image)

**The emetogenic potential**

The majority of protocols used were classified Low emetogenic (44.11%), 25.29% were Moderately emetogenic, 19.11% highly emetogenic and only 1.47% were very weakly emetogenic.

**The antiemetic prescription**

Our study revealed that compliance of antiemetic prescriptions with official recommendations were not always respected in our department. The antiemetic prescriptions did not systematically match the lines guidelines established by organizations such as MASCC (Multinational Association of Supportive Care in Cancer), ESMO (European Society for Medical Oncology), NCCN (National Comprehensive Cancer Network) and AFSOS (Association Francophone pour les Supportive Oncology Care). Our results obtained are similar to those of studies carried out in France [5] and in Morocco [2] In the latter, an under-prescription of aprepitant was noted for highly and moderately emetogenic chemotherapies Figure 2 [10]. In addition, corticosteroids were also underprescribed in highly and moderately emetogenic chemotherapies in the delayed phase, the main reason for overdose is excessive prescription of setrons, which should be reserved only for the acute phase, in patients receiving chemotherapy with low level of emeticism.
High-risk agents cause emesis in more than 90% of patients, and moderate-risk and low-risk agents cause emesis in 30% to 90% and 10% to 30% of patients, respectively [10].

Conclusion
CINV (Chemotherapy-Induced Nausea and Vomiting) are effects side effects common in patients receiving chemotherapy. They are characterized by feeling unwell, nausea and vomiting. These symptoms can occur in the first hours after chemotherapy (acute CINV), several days after (delayed NVCI) or even before the chemotherapy session (anticipated CINV). This study on the prevalence of NVCI in our oncology department highlights the importance of taking into account these side effects in patients taking chemotherapy. The results obtained reveal a significant prevalence of NVCI, with a high percentage of patients reporting nausea and vomiting related to their anticancer treatment. This prevalence highlights the need for support adequate NVCI in oncological care. It highlights the prevalence of NVCI in the oncology department of the Kasr EPH Elhirane and emphasizes the importance of implementing preventive measures and appropriate therapies to improve the quality of life of patients and optimize their anticancer treatment. Additional efforts are needed to raise awareness health professionals and promote optimal management of NVCI in the region.

References


Figure 2: Emetic Classification of Antineoplastic Agents