Background

The 5-HT3 antagonists have become a staple of modern supportive therapy in controlling chemotherapy induced nausea and vomiting (CINV)\(^1\). Multiple guidelines support the use of these agents in treatment of the acute phase of CINV, but numerous studies have been published demonstrating that a single dose of a 5-HT3 receptor antagonist prior to chemotherapy is therapeutically equivalent to a multi-dose schedule\(^2\). Thus, multi-day dosing of 5-HT3 antagonists as antiemetic therapy for delayed CINV confers no benefit to patients, increases the costs associated with treatment, and potentially exposes the patient to unnecessary toxicity.

Current supportive care guidelines from organizations such as Cancer Care Ontario, The American Society of Clinical Oncology, The National Comprehensive Cancer Network and The Multinational Association of Supportive Care in Cancer/European Society for Medical Oncology do not support multi-day dosing of these agents, however it is currently unknown whether Cancer Centres in Canada adhere to these guidelines\(^3,4\). As a result, the primary aim of this project was to investigate whether Cancer Centres in Canada have adopted these guidelines for highly emetogenic chemotherapy regimens.

Hypothesis & Objectives

Hypothesis: It is hypothesized that despite current guidelines, many Canadian Cancer Centres are using multi-day dosing of the 5-HT3 antagonists.

Primary objective: To determine whether Cancer Centres in Canada adhere to Ondansetron and Granisetron dosing guidelines (NCCN, ASCO, MASCC/ESMO) in HEC regimens or whether multi-day dosing of these agents is commonly used.

Secondary Objective: To determine the most commonly used CINV prophylactic regimens for HEC regimens in Canada.

Design

Study Design:
A web-based survey was designed to gather responses from the 45 Cancer Centres that exist across 10 Canadian provinces and the Yukon. The survey was designed and created using the website SurveyMonkey and consisted of 9 close-ended multiple choice questions. The survey questions were voluntary and participants did not have to fill out all of the questions to successfully submit the survey. Multiple responses from the same IP address were allowed.

Study Population:
Study participants were required to be registered pharmacists (RPh) in a Canadian province or territory, to work at a Canadian Cancer Centre, and to have experience with their Centre’s antiemetic dosing guidelines and standard antiemetic regimens for HEC. These criteria were considered met if the participants belonged to the Canadian Association of Pharmacy in Oncology (CAPhO). Aside from the CAPhO membership, no other participants were recruited or screened for the study. Participation in the survey was voluntary.

Data acquisition and analysis:
The recorded responses to the survey were independently analyzed for data quality and accuracy. Responses from the same Cancer Centre were analyzed independently from one another and included as separate responses in the data analysis. Incomplete responses were individually analyzed and were discarded if no usable data could be obtained however they were included in the analysis if a significant portion of the survey was completed.

Data was analyzed via MS Excel and the national data from all provinces was compiled and summarized. Descriptive statistics were used to analyze the data.

Results

43 usable responses were obtained from the survey representing 11.65% of the CAPhO members who receive the newsletter. Of the 45 Cancer Centres across the country the survey captured responses from 22 (48.9%) of the centres which represented 8 provinces and the Yukon. 7 centres had multiple responses with each having a significant amount of heterogeneity in their responses.

When participants were asked whether their Cancer Centre has a standardized regimen when prophylactically treating CINV in HEC, 29 (67.44%) said “yes”, 11 (25.58%) said “no” and 3 (6.98%) said “not sure”. Of the 29 participants who answered “yes”, 16 (55.2%) stated that they used their standard regimen >90% of the time, 12 (41.4%) stated they used their standard regimen 50%-90% of the time and 1 (3.4%) participated did not respond.

When asked about their standard regimen, 56.67% of participants reported using the regimen currently recommended in the guidelines (See Table 1).

When the “other” responses were taken into account, 30% of participants reported using standard regimens with multi-day dosing of 5-HT3 antagonists.

Conclusions

Multi-day dosing of 5-HT3 antagonists is still commonly used in Canadian Cancer Centres. Despite the fact that many centres report having a standard antiemetic regimen, there is still a large degree of heterogeneity in prescribing of 5-HT3 antagonists. Adherence to clinical practice guidelines for use of CINV agents is incomplete, as is adherence to standard regimens within Cancer Centres. Research into the reasons for this non-adherence is warranted in order to optimize prescribing of these agents.

References: