

DSEN Abstract

No evidence identified interventions that decrease the risk of adverse cardiac events for patients receiving chemotherapy and serotonin 5-hydroxytryptamine 3 receptor (5-HT3) antagonists

Summary

This review is a descriptive synthesis of 3 studies evaluating the use of ECG monitoring to mitigate potential cardiac harms associated with the use of 5HT3 medications. The study found a dearth of evidence in the area, thus the usefulness of ECG and other diagnostic interventions remains unclear. These results are of potential interest to policy-makers, researchers and clinicians.

Implications

Future research should be aimed at evaluating potential diagnostic interventions that mitigate cardiac risk in post-surgical patients and/or patients undergoing chemotherapy who are using 5HT3 antagonists. It is recommended that the usefulness of these interventions be clarified through research before clinical decisions are made on the prescription of interventions to reduce harms in these populations.

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What is the current practice in treating post-surgery or chemotherapy-induced nausea and vomiting?

- Serotonin 5-hydroxytryptamine 3 (5-HT3) receptor antagonists are drugs that effectively relieve nausea and vomiting.
- However, 5-HT3 receptor antagonists may also cause cardiac harm.
- The objective of this systematic review was to identify diagnostic interventions that lessen the risk of adverse cardiac events associated with the use of 5-HT3 receptor antagonist medications.

How was the study conducted?

- The study population included patients undergoing chemotherapy or surgery who were receiving 5-HT3 receptor antagonists and an intervention aimed at moderating cardiac risk.
- The outcomes of interest included arrhythmia, cardiac death, QT/PR prolongation or all-cause death.
- Rigorous methods were used to search, screen, abstract and assess study quality.
- The protocol (or plan) for the review was registered and published.

What did the study find?

- 3 relevant studies were identified, including a total of 256 adults receiving chemotherapy. Data were not suited for meta-analysis.
- Electrocardiogram (ECG) monitoring was the only intervention examined in all three studies.
- No clinically significant differences in ECG evaluations were observed for patients receiving 5-HT3 receptor antagonists.
- No studies compared patients receiving 5-HT3 receptor antagonists to those receiving placebo or usual care.
- Minor increases in PR and QT intervals were observed in two trials.
- One study reported four deaths unrelated to the administration of 5-HT3 receptor antagonists.

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