

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-HT₃receptor 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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