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BACKGROUND

• Anthracycline and Cyclophosphamide (A&C)-based chemotherapy (CT) regimens are considered highly emetogenic.
• Consensus guidelines (ASCO, MASCC / ESMO, NCCN, CCO) recommend patients receive combination of 5HT3 antagonist (day 1), NK1 receptor antagonist (days 1-3), and dexamethasone (day 1 only or days 1-3 +/- day 4).
• Despite widespread use of different anti-emetic regimens most patients will experience suboptimal emetic control.

OBJECTIVE

• To determine the optimal anti-emetic regimen to treat chemotherapy induced nausea and vomiting (CINV) in breast cancer patients receiving A&C-based chemotherapy using network meta-analysis.
• To assess the evidence base of consensus anti-emetic guidelines.
• To determine what future trials need to be performed.

STUDY SELECTION

• A peer reviewed literature search of Medline (1947-Nov 2013), Embase (1980-Nov 2013) and the Cochrane Collaboration’s CENTRAL (Fall 2012) issue was performed.
• This study was not funded by the pharmaceutical industry.

STUDY SELECTION

• Patients: Randomized, controlled trials (RCTs) assessing CINV in breast cancer patients (≥20% in RCT) on A&C chemotherapy (≥23% in RCT).
• Intervention / Comparator: CINV prophylaxis regimens.
• Primary Outcome (from 0-120 hours post-chemo):
  • Complete Response (No Nausea + No vomiting + No rescue anti-emetics).
  • Complete Protection (Minimal nausea + No vomiting + No rescue anti-emetics).
  • Total Control (No nausea + No vomiting + No rescue anti-emetics).
  • Acute and Delayed phases of above outcomes

DATA SOURCES & DISCLAIMERS

• Randomized, controlled trials (RCTs) assessing CINV in breast cancer patients receiving A&C-based chemotherapy using network meta-analysis.
• Additional records identified through other sources (n = 61).
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NETWORK META-ANALYSIS

• Network meta-analysis (NMA) enables us to link data from multiple trials comparing different treatment regimens into a single network to make indirect comparisons of treatments possible even where head-to-head trial data does not exist.
• NMA does not discover a new anti-emetic treatment, but helps to confirm or refute the validity of current recommendations.

While respecting consensus guidelines, our findings would suggest that they are not supported well by all the available evidence.

Future studies should use standardized design and comprehensive reporting of outcomes.

CONCLUSION

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