Therapeutic Drug Monitoring of Vancomycin: Clinical Evidence and Cost-Effectiveness
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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada’s health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Research Questions

1. What is the clinical evidence regarding using area under the curve to a minimum inhibitory concentration ratio versus trough level dosing for the administration of vancomycin?

2. What is the cost-effectiveness of therapeutic drug monitoring of vancomycin using area under the curve to a minimum inhibitory concentration ratio versus trough level for people with serious infections?

Key Findings

Two non-randomized studies were identified regarding the clinical effectiveness of therapeutic drug monitoring of vancomycin. No relevant economic evaluations were identified regarding cost-effectiveness of therapeutic drug monitoring of vancomycin.

Methods

A limited literature search was conducted by an information specialist on key resources including Medline and Embase via OVID, the Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were vancomycin and therapeutic drug monitoring focusing on area under the curve/minimum inhibitory concentration-based dosing. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and May 6, 2019. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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<tr>
<th>Table 1: Selection Criteria</th>
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<tr>
<td><strong>Population</strong></td>
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<td><strong>Intervention</strong></td>
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<td><strong>Comparator</strong></td>
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<td><strong>Outcomes</strong></td>
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<td><strong>Study Designs</strong></td>
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Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and economic evaluations.

Two non-randomized studies were identified regarding the clinical effectiveness of therapeutic drug monitoring of vancomycin. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or economic evaluations were identified.

Additional references of potential interest are provided in the appendix.

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies


Economic Evaluations

No literature identified.
Appendix — Further Information

Randomized Controlled Trials – Unspecified Infection

   PubMed: PM30919233

Non-Randomized Studies – Unspecified Infection

   PubMed: PM29203493

   PubMed: PM28923869

   PubMed: PM27144370

   PubMed: PM23340565

Review Articles

   PubMed: PM25644329

   PubMed: PM23851909