TITLE: Sodium Citrate Locks for Patients with Central Venous Catheters: Clinical Effectiveness, Safety, and Guidelines

DATE: 16 November 2012

RESEARCH QUESTIONS

1. What is the clinical effectiveness of sodium citrate locks for the maintenance of central venous catheters in hospitalized patients?

2. What is the clinical evidence regarding the safety of sodium citrate locks for the maintenance of central venous catheters in hospitalized patients?

3. What are the evidence-based guidelines regarding the use of sodium citrate locks for the maintenance of central venous catheters in hospitalized patients?

KEY MESSAGE

One relevant randomized controlled trial and one non-randomized study were identified regarding the clinical effectiveness of sodium citrate locks for the maintenance of central venous catheters in hospitalized patients. No relevant evidence-based guidelines were identified.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2012, Issue 10 of 12), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), Canadian and major international health technology agencies, as well as a focused Internet search. 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 November 12, 2002 and November 8, 2012. Internet links were provided, where available.
The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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 evidence-based guidelines.

One relevant randomized controlled trial and one non-randomized study were identified regarding the clinical effectiveness of sodium citrate locks for the maintenance of central venous catheters in hospitalized patients. No relevant health technology assessment reports, systematic reviews, meta-analyses, or evidence-based guidelines were identified. Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Two studies were identified regarding the use of sodium citrate locks for the maintenance of central venous catheters in hospitalized patients. Results from the randomized study indicate that sodium citrate locks may reduce catheter complications and increase catheter life-span when compared with saline locks in critically ill adult patients requiring hemodialysis.\(^1\) In a short-term inpatient setting, authors of the included non-randomized controlled study found an acid citrate dextrose locking solution to be associated with lower rates of catheter dysfunction when compared with a heparin locking solution.\(^2\)

No relevant evidence-based guidelines were identified.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials

PubMed: PM22124771

Non-Randomized Studies

PubMed: PM22074231

Guidelines and Recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-Analyses – unclear if examines hospitalized patients


Guidelines and Recommendations – unclear if applies to hospitalized patients


See Patients Who Require Renal Replacement Therapy


Non-Randomized Studies – home parenteral nutrition


Review Articles