TITLE: Aspirating Peripherally Inserted Central Catheters: Patient Safety and Clinical Guidelines

DATE: 24 January 2011

RESEARCH QUESTIONS

1. What is the comparative safety of aspirating versus not aspirating peripherally inserted central catheters?

2. What is recommended in clinical practice guidelines regarding aspiration of peripherally inserted central catheters?

KEY MESSAGE

The literature search identified one non-randomized study that compared aspirating versus not aspirating peripherally inserted central catheters. Results of this study suggest that blood sampling through these devices is feasible and effective in children and that sampling is not associated with a significant increase in occlusion, infection or mechanical complication rates.

METHODS

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 12, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between January 1, 2001 and January 14, 2011. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies and guidelines. 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, economic evaluations, and evidence-based guidelines.

One non-randomized study comparing aspirating versus not aspirating peripherally inserted central catheters was identified. Other articles of potential interest are included in the appendix.

OVERALL SUMMARY OF FINDINGS

One non-randomized study evaluated the difference in occlusion rates in 204 children with either peripherally inserted central catheters without blood sampling, or the same device through which blood samples were obtained. There was a higher occlusion rate in the blood sampling group. However, this result did not reach statistical significance. The authors of the study concluded that blood sampling through peripherally inserted central catheters is feasible and effective in children and that it is not associated with a significant increase in occlusion, infection or mechanical complication rates.
REFERENCES SUMMARIZED

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses
No literature identified.

Randomized controlled trials
No literature identified.

Non-randomized studies

Guidelines and recommendations
No literature identified.

PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Randomized controlled trials (no comparison between aspirating and not aspirating)


Non-randomized studies (no comparison between aspirating and not aspirating)


Economic evaluations


Other guidelines and recommendations


Note: please see p.35 and p.72-73


Note: please see p.273-274

Clinical policies and procedures


Note: please see p.7


Note: please see p.32


Note: please see p.6

Review articles


Additional references

