



However, using traditional pairwise meta-analyses to summarise the evidence does not allow the inclusion of data from treatments that have not been compared head to head, which could impact the precision of pooled estimates in a meta-analysis. Therefore, we evaluated the efficacy and safety of the different lock solutions for CRBSI through a network meta-analysis” Dang et al 92019).

Abstract:

INTRODUCTION: Catheter-related bloodstream infection (CRBSI) is a major complication after central venous catheter insertion, which is associated with significant morbidity, mortality and additional medical costs. Many lock solutions for CRBSI have been evaluated. However, using traditional pairwise meta-analyses to summarise the evidence does not allow the inclusion of data from treatments that have not been compared head to head, which could impact the precision of pooled estimates in a meta-analysis. Therefore, we evaluated the efficacy and safety of the different lock solutions for CRBSI through a network meta-analysis.

METHODS AND ANALYSIS: The primary outcome of this network meta-analysis is the CRBSI. The secondary outcomes are exit-site infection and catheter-related thrombosis. We will search the PubMed, Embase, Web of Science and the Cochrane Library databases for recent relevant meta-analysis and their reference lists to include randomised controlled trials (RCTs) that compared lock solutions for CRBSI prevention. Two individuals will independently extract

data from each included RCT according to a predesigned Excel spreadsheet and will assess the methodological quality using the Cochrane risk of bias tool. We will analyse the data using WinBUGS (V.1.4.3) and Stata (V.15.0). We will also estimate the pooled direct and indirect effects for all lock solutions using the network meta-analysis.

ETHICS AND DISSEMINATION: As the present meta-analysis is performed based on previous published studies, no ethical approval and patient safety considerations are required. This study commenced on 18 January 2019, and its expected completion date is 1 December 2019. We will disseminate the results of our network meta-analysis through an international peer-reviewed journal.

PROSPERO REGISTRATION NUMBER: CRD42019121089.

You may also be interested in...

IV lock solution for central venous catheter salvage

Sodium bicarbonate catheter lock solution reduces hemodialysis catheter loss

Haemodialysis central venous catheter related central venous thrombosis

Full Text

Reference:

Dang, F., Li, H., Tian, J., Wang, R. and Ren, J. (2019) What is the best catheter lock solution in preventing catheter-related blood infections? A protocol for a Bayesian network meta-analysis of randomised controlled trials. *BMJ Open*. 9(6), p.e030019. doi: 10.1136/bmjopen-2019-030019.

