Systematic review of antimicrobial lock therapy for CLABSI prevention

Lock therapy may be an adjunct in high-risk cancer patients for the prevention of CLABSI; higher quality evidence is needed for specific ALT recommendations” Norris et al (2017).

Abstract:

BACKGROUND: Central venous catheter (CVC) use is commonplace in cancer patients. Antimicrobial lock therapy (ALT), the instillation of a concentrated antimicrobial solution into the catheter lumen, is one method for preventing infection among CVCs. This systematic review discusses the effectiveness and safety of prophylactic ALT in cancer patients with CVCs.

METHODS: A literature search was performed using the Medline database and Google Scholar from inception until April 2016. The following terms were used: ‘antimicrobial lock solution’, ‘antibiotic lock solution’, ‘oncology’, ‘hematology’, ‘pediatrics’, ‘prevention’, ‘cancer’, ‘catheter related bloodstream infections’, ‘central-line associated bloodstream infection’ (CLABSI) and ‘central venous catheter’. Studies evaluating prophylactic ALT in cancer patients alone were eligible for inclusion. Case reports, case series and in-vitro studies were excluded.

RESULTS: In total, 78 articles were identified. Following all exclusions, 13 articles (three adult and 10 pediatric) were selected for evaluation. The most common agents utilized were vancomycin with heparin; ethanol; taurolidine; and minocycline with EDTA. Quality of evidence was moderate to high in adult studies and low to moderate in pediatric studies. Use of ALT decreased the incidence of CLABSI in the majority of studies; however, there were significant differences in definitions of CVC-related infection, dwell times and lock solutions.

CONCLUSION: Lock therapy may be an adjunct in high-risk cancer patients for the prevention of CLABSI; higher quality evidence is needed for specific ALT recommendations.
Reference:


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