“Antimicrobial lock therapy (ALT) seems a promising approach for treatment of central line associated bloodstream infections (CLABSI)” Vassallo et al (2015).

Reference:

Vassallo, M., Dunais, B. and Roger, P.M. (2015) Antimicrobial lock therapy in central-line associated bloodstream infections: a systematic review. Infection. February 6th. .

Antimicrobial lock therapy in central-line associated bloodstream infections
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Abstract:

PURPOSE: Antimicrobial lock therapy (ALT) seems a promising approach for treatment of central line associated bloodstream infections (CLABSI). The recent introduction of molecules such as daptomycin and tigecycline, alone or in combination with other molecules, improved chances of efficacy of ALT, due to their activity on the bacterial biofilm. Our aim was to review the literature concerning ALT for CLABSI, including data concerning novel molecules.

METHODS: We included case-control studies evaluating two or more molecules as ALT in central venous catheter infections extracted from the Medline database. Among 221 available articles in Pubmed, 54 were selected for their particular interest concerning ALT.

RESULTS: Incidence of CLABSI is high worldwide. Mechanisms of catheter infection include contamination by skin bacteria, hand contamination and hematogenous diffusion. Catheter-infection is associated with biofilm formation, which reduces the efficacy of ALT. The most promising situation for ALT to succeed in salvaging a catheter appears to be coagulase-negative Staphylococcus infection, which is the main causative agent of CLABSI. Daptomycin, Tigecycline, Ethanol and Taurolidine appear as the best options for treating CLABSI; data are mostly available for Daptomycin, which showed, alone or associated with Rifampin, good in vitro potency on biofilm, but few in vivo data exist on efficacy.

CONCLUSIONS: The introduction of novel molecules has increased chances of catheter salvage with ALT in case of CLABSI, but further in vivo studies are needed.

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