“We have recently shown that a catheter lock solution containing taurolidine dramatically decreases catheter-related bloodstream infections (CRBSI) in patients on home parenteral nutrition (HPN) when compared to heparin.” Olthof et al (2014).

Reference:

Olthof, E.D., Nijland, R., Gülich, A.F. and Wanten, G.J. (2014) Microbiocidal effects of various taurolidine containing catheter lock solutions. Clinical Nutrition. May 9th. .

Microbiocidal effects of taurolidine containing catheter lock solution http://ctt.ec/Va753+ @ivteam #ivteam

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Abstract:

BACKGROUND & AIMS: We have recently shown that a catheter lock solution containing taurolidine dramatically decreases catheter-related bloodstream infections (CRBSI) in patients on home parenteral nutrition (HPN) when compared to heparin. Since several taurolidine formulations are commercially available, some of which also contain citrate or heparin, we were interested in the effect of these different locks on growth and biofilm formation of fungal, Gram-negative and Gram-positive pathogens that are known to impede HPN treatment.

METHODS: Clinical isolates obtained during CRBSI of HPN patients were grown in the presence of catheter locks (2% taurolidine, 1.34% taurolidine-citrate, 1.34% taurolidine-citrate-heparin, citrate and heparin) or phosphate buffered saline diluted in lysogeny broth medium for bacteria and sabouraud liquid medium for yeasts. Biofilm formation, assessed by crystal violet staining, and growth of clinical isolates were determined by optical density measurements.

RESULTS: We found that 12.5× diluted solutions of all taurolidine containing formulations completely prevented growth of Escherichia coli, Staphylococcus aureus and Candida glabrata. Growth of these microbes was detected earlier in 1.34% taurolidine-citrate(-heparin) than in 2% taurolidine, while citrate and heparin did not inhibit growth of clinical isolates compared to PBS. No differences in biofilm formation were found between taurolidine containing solutions.

CONCLUSION: Taurolidine containing lock solutions prevent growth of fungal, Gram-negative and Gram-positive pathogens. While 2% taurolidine appears to be the most potent in this respect in this in vitro setting, the relevance of the small differences in growth inhibition between the commercially available taurolidine containing lock solutions for clinical practice remains to be established.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).

Guide for intravenous chemotherapy and associated vascular access devices from Macmillan.
CancerUK IV chemotherapy information.