



securA cath.

Reduce Infections

Decrease Dislodgements

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LIFT

securA cath.

HOLD

The image shows a close-up of a SecurA catheter with a yellow locking device. The device has two tabs labeled 'LIFT' and 'HOLD'. The catheter is shown inserted into a skin surface, with a cross-section of the skin and underlying tissue visible. The background is a gradient of orange and brown.



Results of a study of the activity of antibiotic lock solutions of vancomycin and telavancin against biofilm-forming strains of *Staphylococcus epidermidis*, *Enterococcus faecalis*, and *Staphylococcus aureus* are reported” Luther et al (2016).

Abstract:

Purpose: Results of a study of the activity of antibiotic lock solutions of vancomycin and telavancin against biofilm-forming strains of *Staphylococcus epidermidis*, *Enterococcus faecalis*, and *Staphylococcus aureus* are reported.

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Methods: An established in vitro central venous catheter model was used to evaluate lock solutions containing vancomycin (5 mg/mL) or telavancin (5 mg/mL), with and without preservative-containing heparin sodium (with 0.45% benzyl alcohol) 2500 units/mL, heparin, and 0.9% sodium chloride solution. Lock solutions were introduced after 24-hour bacterial growth in catheters incubated at 35 °C. After 72 hours of exposure to the lock solutions, catheters were drained, flushed, and cut into segments for quantification of colony-forming units.

Results: Against *S. epidermidis*, vancomycin and telavancin (with or without heparin) had similar activity. Against *E. faecalis*, vancomycin alone was more active than telavancin alone ($p < 0.01$). Against *S. aureus*, vancomycin plus heparin had activity similar to that of vancomycin alone; both lock agents had greater activity than telavancin ($p < 0.02$). The addition of heparin was associated with reduced activity of the vancomycin lock solution against *S. epidermidis* and *E. faecalis* ($p < 0.01$). Telavancin activity was not significantly changed with the addition of heparin.

Conclusion: In a central venous catheter model, vancomycin and telavancin activity was similar in reducing biofilm-producing *S. epidermidis*. However, vancomycin was more active than telavancin against *E. faecalis* and *S. aureus*. None of the tested agents eradicated biofilm-forming strains. The addition of preservative-containing heparin sodium 2500 units/mL to vancomycin was associated with reduced activity against *S. epidermidis* and *E. faecalis*.

Reference:

Luther, M.K., Mermel, L.A. and Laplante, K.L. (2016) Comparison of telavancin and vancomycin lock solutions in eradication of biofilm-producing staphylococci and enterococci from central venous catheters. *American Journal of Health-System Pharmacy*. 73(5). p.315-321.



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