Case Study:

Bacterin – Covalent Antibacterial Attachment – one step

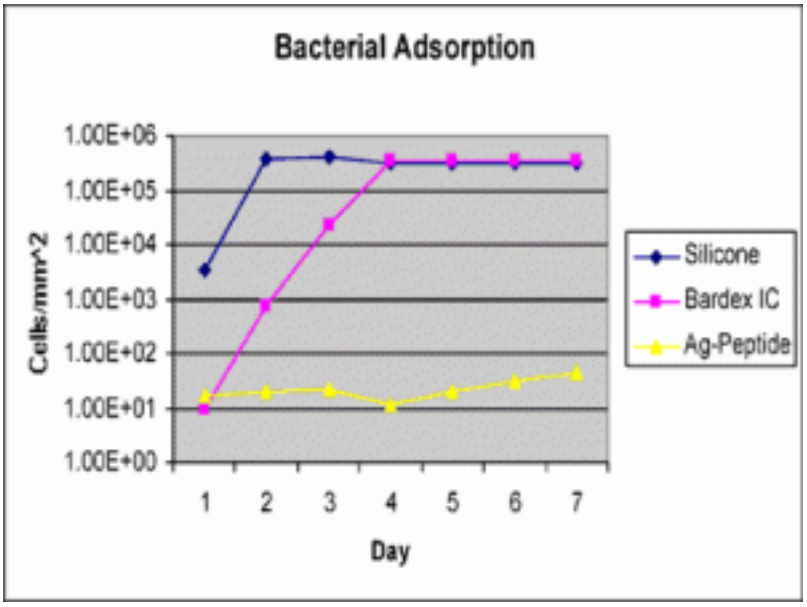
Samples were prepared of a covalently bound antimicrobial hydrophilic coating which were then dip-coated on a PU tube and tested in a simulated urological test at Bacterin. The time to total biofilm growth was about 1 day for uncoated silicone, 4 days for the commercial silver coated control, and over 7 days for the Surface Solutions silver coated tubing.

Efficacy is maintained through prolonged dynamic bacterial challenges. Biofilm growth is avoided.

Anti-Infective Coating for Medical Devices

Infection resistant coatings minimize the risk of device-associated infection and may provide long term benefits for implantable devices. A clinically relevant in-vitro biofilm test model was developed for analyzing bacterial adsorption and viability.

For urology applications, clinical isolates taken from urinary tract infections of the pathogens; *E. coli, E, faecelis, C. albicans, P. aeruginosa, and S. aureus* and grown to steady state in separate continuously stirred bioreactors. Inoculate suspensions of each pathogen were diluted to approximately 1.0 x 10 3 CFU/mL in artificial urine, and allowed to contact 100 mm 2 test coupons of the finished form of the anti-infective coating in a once pass over flow cell bioreactor. The test coupons were analyzed by; confocal laser scanning microscopy (CLSM) utilizing a viability stain, scrape and plate for overnight incubation on R2A agar, and quantitative PCR.



Source: www.bacterin.com

Results presented are for *E.coli* on an antimicrobial loaded catheter utilizing a dual loaded silver compound/antimicrobial peptide on a sustained release platform. The coating can be incorporated onto a variety of medical plastics and shows a 4 log reduction over a current anti-infective technology for 7 days.

Guy S. Cook, Bacterin Inc.A presentation to ASAIO 2001