Appraisal of 2-furoic acid as a potent biofilm inhibitor against Staphylococcal species and corroborating its application via in vitro catheter model

Adline Princy S
SASTRA University, India

Biofilms on catheter related blood stream infections (CRBSIs) increases the risk of allowing microbes to escape host defences and antimicrobial therapy. Antimicrobial catheter-lock solutions may eradicate biofilms formed by S. aureus and S. epidermidis as they are frequently isolated from CRBSIs. We evaluated 2-furoic acid (2-FA) individually and in combination with antibiotic, Vancomycin against biofilms of S. aureus and S. epidermidis to identify effective catheter-lock solutions. Minimum biofilm-inhibition concentration causing 50% (MBIC_{50}) and 90% (MBIC_{90}) inhibition were determined as 100 µg/ml and 1000 µg/ml respectively, against biofilms of S. aureus and S. epidermidis on 96-well microtitre plates. Its efficacy as a potent anti biofilm agent was checked and was applied in in vitro catheter studies. Furthermore, adherence and toxicity quotient of 2-FA confirmed its anti-biofilm potential in HEp-2 cells.

Biography
Adline Princy S. is an Associate Professor at School of Chemical & Biotechnology at SAStRA University, Tamil Nadu, India. Combating against infections of bacterial origin has been her cardinal research interest. She has published her research findings in reputed International journals. She has also been a convener in International Conference on Regulatory Network & Architecture in Bacteria. "Quorum Sensing Targeted Drug Development" is the central theme on which her research group is working upon.