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POSSIBLE STRATEGIES TO OVERCOME DRUG RESISTANCE IN BIOFILM

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Biofilm-growing nosocomial pathogens represent a serious public health concern. In fact, the biofilm mode of growth is highly relevant in clinical settings where these microbial communities, displaying higher levels of antimicrobial resistance, cause several difficult-to-treat chronic infections. The reduced effectiveness of many antibiotics against bacteria grown as biofilm is due to the presence of the exopolysaccharide matrix, the reduced growth rate of microbial cells and the significant increase in the level of horizontal gene transfer. The relapsing nature of biofilm-related infections makes increasingly necessary to discover new antimicrobial agents able to interfere with biofilm formation and maturation, without inducing antibiotic resistance. This presentation will focus on biofilm resistance in aerobic and anaerobic species, underlining their response to antibiotics in terms of matrix production and induction of a viable but non-culturable state. Refractory medical devices and not-inducing resistance, antibacterial compounds will be presented as possible anti-biofilm strategies.

BIOGRAPHY

Claudia Vuotto is currently working in the Microbial Bioflim Laboratory and she is also an associate with Fondazione Santa Lucia IRCCS.

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