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Biofilms in anaerobic infections

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The increasing number of anaerobic bacteria isolated from different clinical samples has led to a growing awareness of their contribution in acute and chronic infections. These bacteria, in fact, are able to become opportunistic pathogens after that a permissive environment within the host have been created or in presence of other predisposing factors. In these conditions, infections in which are involved anaerobic bacteria, often together with aerobes, arise. However, despite the increasingly frequent isolation of anaerobic species during infectious processes and the demonstrated ability of some of them to form biofilms, their involvement in the establishment of healthcare-associated infections (HAI) is still undervalued and thus little studied. The current knowledge about the implication of biofilm-forming anaerobic bacteria in some human infections will be examined and the data acquired in our laboratory by means of Quantitative Biofilm Production Assay, Field Emission Scanning Electron Microscopy and Confocal Laser Scanning Microscopy will be presented. In particular, data obtained on the synergistic and/or competitive interactions within multi-species biofilms among different anaerobic species, including *Clostridium difficile*, *Veillonella spp.*, *Peptostreptococcus magnus*, *Porphyromonas gengivalis*, will be summarized and discussed. Information on the involvement of some anaerobic species in causing difficult-to-treat infections as part of polymicrobial biofilms and on the ability of commensal microorganisms, including Lactobacilli, to antagonistically operate against anaerobic pathogens will be provided.

Biography

Claudia Vuotto has obtained her PhD in Biomedical Sciences, Medicine and Public Health at Marche Polytechnic University Medical School. She has won a Fellowship at the Italian National Institute of Health and is a currently Researcher at the Microbial Biofilm Laboratory of the Fondazione Santa Lucia in Rome. She has published 18 articles on international peer reviewed journals and 2 book chapters for Springer. She was in the Local Organizing Committee in the International Congress "Eurobiofilms 2009" and in the Scientific Committee of "Eurobiofilms 2015" as well as Scientific Secretary of the ESGB Meeting "Biofilm-based Healthcare-associated Infections: From Microbiology to Clinics" (2015).

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