

Research Project Proposal
Academic year 2016-2017

Project Nº 29
Title: Characterization of small-colony variants of Staphylococcus in patients with chronic infections.
Department/ Laboratory Laboratory of Microbiology, Department of Microbiology and Parasitology, CUN
Director: Dr. César Bustos Guillén Contact: cbustos@unav.es
<p>Summary</p> <p>Bacterial variants of staphylococci called small colony variants (SCVs) are able to persist viable inside host cells. The generation of SCVs is related to the persistence of the infectious process. The role of SCVs as source of chronic infections and their particular mechanisms of resistance are subjects of current research. However, the search of SCVs in clinical practice is not standardized.</p> <p>Hypothesis</p> <p>The ability of staphylococci to develop SCVs is related to the failure of antimicrobial treatment for chronic infections.</p> <p>Objectives</p> <p>Analyze the role of staphylococcal strains producers of SCVs isolated from patients with treatment failure of chronic infections. Additionally, to describe the phenotypic and genotypic changes expressed by the bacterial strains.</p> <p>Material and methods</p> <p>Retrospective study that will include patients diagnosed with persistent staphylococcal infection of any source despite at least 4 weeks of appropriate antimicrobial therapy. Staphylococcal isolates will be analyzed to study auxotrophism and antimicrobial susceptibility. All available microbiological isolates will be cultured on solid media for phenotypic analysis. Subsequently, its ability to infect cells developed in shell vials will be confirmed before evaluating of expression of the main molecular targets described to be dysregulated. All changes will be compared with an ATCC SCV-producer strain of Staphylococcus aureus.</p>