Proteomics Comparative Analysis of Staphylococcus lugdunensis strains with morphocolonial profiles presenting invasiveness

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INTRODUCTION: *Staphylococcus lugdunensis* is an unusually virulent coagulase-negative species, which causes severe infections, with an infectious course very similar to *S. aureus*. Virulence of *S. lugdunensis* seems to be wide, and many studies have been performed to clarify why some infections are so severe. Recently, a strain with increased invasiveness was described, showing distinct morphocolonial aspects in relation to the other strains. It was shown to have rough appearance, while the non-invasive strains showed smooth appearance. **OBJECTIVE**: To compare clinical samples of *S. lugdunensis* from the same clonal complex with rough morphocolonial (invasive strain) and smooth morphocolonial phenotype (non-invasive strain), phenotypically and genotypically. **MATERIALS AND METHODS**: Three samples of different bacterial strains were chosen, with two distinct clonal profiles, determined by PFGE technique (Pulsed Field Gel Electrophoresis). Membrane and secretory proteins will be obtained of them. One-dimensional electrophoresis (SDS-PAGE) will be performed, followed by identification of these proteins by mass spectrometry using the ESI-Orbitrap. The obtained data will be treated with bioinformatics tools. **DISCUSSION AND RESULTS**: It's expected to find different expression profiles of proteins between strains from mass spectrometry, allowing a comparison among them and identifying of proteins responsible for invasiveness and virulence rules of trains with rough morphocolonial appearance. **CONCLUSION**: Due to the fact that the experiments are still in progress, there is no conclusive data obtained so far.

Keyword: proteomics, staphylococcus lugdunensis, rough morphology

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