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INTERACTION OF *Staphylococcus aureus* WITH MACROPHAGES AND DENDRITIC CELLS DERIVED FROM HUMAN MONOCYTES ISOLATED FROM HUMAN PERIPHERAL BLOOD MONONUCLEAR CELLS.

Correa, L.C.; Lyrio, E.; Campos, I.; Castro, H.C.; Santos, D. O.

University Federal Fluminense, Institute of Biology, Department of Molecular and Cell Biology, Niterói / RJ, Brazil, santosdilvani@gmail.com, (21) 2629-2290.

Introduction: Infections involving skin are common and include from superficially localized infections to deeper infections which may cause the dissemination of infectious processes that can be fatal, like the toxic shock caused by *Staphylococcus aureus*. Literature mentions it as the destruction of the epidermal barrier by *S. aureus* altering the intercellular binding structures, like desmosomes and adherence junctions. **Objective:** The aim of this study is to investigate the interaction of *S. aureus* with macrophages and dendritic cells derived from human monocytes isolated from peripheral blood mononuclear cells (PBMC). **Methods:** PBMC obtained from healthy individuals were isolated by Ficoll-Hypaque. After cold aggregation of the whole PBMC, the monocytes were purified and cultured at a concentration of 2×10^5 / mL in complete RPMI medium and incubated or not with cytokines γ GM-CSF and γ IL-4 to differentiate into dendritic cells (DCs) and macrophages, respectively. After 10 days of culture, *S. aureus* was added (MOI = multiplicity of infection 2:1; 3:1 e 5:1) for 2 h, 4h and 6 h. Afterwards, the cells were fixed in methanol and stained with May Grunwald. **Results:** The analysis by optical microscopy showed an exuberant infection in macrophages and DCs by *S. aureus* (MOI = 3:1) specially after 6 h of incubation. **Conclusion:** Our results show that *S. aureus* is able to infect human macrophage and dendritic cells. Our results are pioneers in showing infection of human dendritic cells by *S. aureus*. Future studies are needed to better understand the role of dendritic cells in human infection caused by *S. aureus*.

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Correa, L.C is a student of MSc (Programme in Biotechnology and Science), University Federal Fluminense, RJ, Brazil