

IN VITRO COMPARATIVE STUDY OF *Bacteroides* SPECIES INTERFERENCE ON MACROPHAGES MICROBICIDE RESPONSE AND MORFOLOGY

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Bacteroides genus consists of strict anaerobic bacteria that compose human microbiota, being outstanding in oral and intestinal sites. *Bacteroides fragilis* species present relevant virulence factors that turn it capable of modifying the nitric oxide (NO) synthesis pathway at macrophages, which includes changes in phagocytes' plasmatic membrane as observed before by our group. *B. vulgatus* and *B. thetaiotaomicron* species perform important role in contributing to host metabolism. On the other hand, as pathogenic agents, they are associated with antimicrobial drugs resistance. These species, like other anaerobic bacteria, cause infections when leave the colonizing site, invading sterile ones. In this study it was evaluated the interaction between mice peritoneal macrophages with *B. vulgatus* and *B. thetaiotaomicron* to compare with the date obtained previously for *B. fragilis*. Bacteria:macrophage interaction assays were performed in a period of two hours, at a ratio of 200: 1, respectively, in an atmosphere of 5% CO₂. After the interaction, macrophage viability analyzes were performed by staining with Trypan blue and bacterial strains by plating on supplemented blood agar plates incubated in anaerobic environment. Were also performed immunocytochemistry assays to study the behavior of macrophage actin filaments and iNOS (inducible NO synthase), beyond scanning electron microscopy to analyze its topology after interaction with bacterial strains. The results showed massive loss of macrophages cell viability different from what was seen for bacterial cells, which preserve their viability. Besides, immunocytochemistry observation revealed weak labeling for iNOS inside macrophages, suggesting its extrusion to extracellular medium what is probably related to pore-like structures observed on the infected phagocytes cell surfaces through scanning electron microscopy (SEM) images. Furthermore, the latter also showed changes on macrophages surfaces with apparent decline of their characteristics membrane ruffles. Thus, in accordance with the results obtained so far, it seems that *B. vulgatus* and *B. thetaiotaomicron* are able to modify macrophages morphology and bactericide action, showing similar virulence potential like *B. fragilis*.

Keywords: *Bacteroides vulgatus*, *Bacteroides thetaiotaomicron*, microbicide response, Macrophages.

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