Title: PROFILE of the STANDARD RESPONSE of the CYTOKINES INTERLEUKIN-1 and INTERLEUKIN-6 on INTRAPERITONAL INFECTION by Escherichia coli ENTEROINVASIVA in SWISS MICE

AUTHORS: SANTOS, T.S.; MARNIERI, B.S.; FRANCIOSI, A.; SARMIENTO, J. J.; FELIPE, I.; NAKAZATO, G.; CAMPOIS, N. M.F.; GUALTIERI, K. A.; CAMPOIS, T. G.

Institution: [1]CENTRO UNIVERSITÁRIO FILADÉLFIA - UNIFIL, LONDRINA, PR (AV. ALAGOAS, 2050) [2]UNIVERSIDADE ESTADUAL DE LONDRINA, LONDRINA, PR (RODOVIA CELSO GARCIA CID KM 380)

Abstract:

The Escherichia coli (e. coli) bacteria is prevalent in intestinal microbiota optional anaerobic human, colonizing the colon mucosa of children newly born establishing mutual benefits, however, in immunosuppressed hosts or with gastrointestinal barrier broken, even the non-pathogenic strains can cause infection. Among the pathogenic strains, the e. coli (EIEC) enteroinvasive represents an important cause of diarrhea in humans, promoting invasion and replication in the cells of the colon with similar to infection caused by Shigella. In view of the important mechanism of infection and pathogenesis of this strain, in this work aimed to establish relationship between initial pro inflammatory cellular response during infection by EIEC through the profile of cytokines Interleukin 1 beta (IL-1 β) and Interleukin 6 (IL-6) in mice infected with strains diarrheagenic and not diarrheagenic. To this end, 52 were used Swiss female mice, divided into control group infected with strain American Type Culture Collection (ATCC) and infected with EIEC at different times. The mice were euthanised, inoculated 4 ml of intraperitoneal saline solution for peritoneal exudate and the dosage of cytokines by using enzyme-linked immunosorbent assay (ELISA) capture. Evaluation of profile of IL-6 showed significant difference between the strains and times evaluated with high concentration on infection by strain ATCC. Both strains induced increased production of IL-6 in 30 minutes period intraperitoneal, with declining levels and return to control levels in 24 hours. In relation to the levels of IL-1 was observed higher dosage of strain ATCC with a peak in 6 hours and return to control levels in 24 hours, while in the group infected by EIEC in 48 hour period yet observed presence of IL-1, demonstrating a pro-inflammatory response extension front of pathogenic strain by the need for more migration to the site of infection to the resolution of the infection and debugging of bacteria.

Keywords: Diarrheagenic Escherichia coli , Enteroinvasive, Pro-inflammatory

Development Agency: Fundação Araucária