EVALUATION OF THE PREVALENCE OF LISTERIA MONOCYTOGENES IN HIV POSITIVE PREGNANT WOMEN

Authors: Ribeiro, I.G.¹,², Vallim, D.C.¹, Lisbôa, R.C.¹, Rodrigues, V.S.¹,², Hofer, E.¹, Hofer, C.B ²

Institutions: ¹ Laboratório de Zoonoses Bacterianas - Instituto Oswaldo Cruz, Fundação Oswaldo Cruz (Av. Brasil, 4365 - Manguinhos, Rio de Janeiro, RJ, CEP: 21040-360); ² Universidade Federal do Rio de Janeiro, HUCFF/IPPMMG (Av. Brig. Trompowsky, s/nº., Ilha do Fundão, 21044-020 - Cidade Universitária, RJ – Brasil)

Abstract:

Listeriosis it’s a infection caused by Listeria monocytogenes and affects, mainly, pregnant women, elderly, children and immunosuppressed individuals. The main route of transmission is trough the ingestion of contaminated food, which make this bacterium a relevant pathogen among the diseases transmitted by food (DTA, in portuguese). In pregants the listeriosis can be asymptomatic or exhibit symptoms similar to influenza. However, in certain cases, like in HIV positive pregnant women, listeriosis can be fatal. The goal of this study was evaluate the prevalence of Listeria monocytogenes in HIV positive pregnant, in the second and third trimesters of gestation, by analyzing the feces with the traditional microbiological method and with the molecular method of Chain Reaction Polymerase (PCR). The pregnant women participating in this study are part of the Program of Assistance to HIV Positive Pregnants from the Institute of Child Care Martagão Gesteira / University Hospital Clementino Fraga Filho (IPPMG/UFRJ). Bacteriological steps of isolation, phenotypic and molecular characterizations were developed in Bacterial Zoonoses Laboratory, IOC / FIOCRUZ. A total of 79 feces samples were seeded in selective medium for Listeria and submitted to cryoenrichment in Listeria Enrichment Broth (LEB) for 30 days at 4-8ºC. These samples were also seeded in the primary and secondary enrichment mediums Modified University of Vermont I and II (UVM I and UVM II), and plated in PALCAM medium and blood agar base supplemented with defibrinated sheep blood at 5%. The phenotypic characterization followed the methodology defined by Gasanov et al., 2005. The DNA for molecular detection of Listeria spp. was extracted with the QIAamp DNA Blood Mini Kit, following the kit instructions, from the fresh feces and from the cryoenrichment after 15 and 30 days. Two primers, 23S rDNA (Listeria genus marker) and hly (L. monocytogenes hemolysin marker) were utilized in the PCR. Preliminary results of this study showed that of the 79 (100%) stool samples analyzed, 7 (8.8%) were positive for Listeria spp. Three samples were identified as Listeria innocua, representing 3.79% of the total, and four samples were identified as Listeria monocytogenes, representing 5.06% of the total. This result indicates the possible circulation of L. monocytogenes in the gastrointestinal tract of those patients.

Keywords: Listeria monocytogenes; Listeriosis; Pregnant women; HIV.