TITLE: MULT-DRUG RESISTANT (MDR) *Listeria monocytogenes* IN BRAZILIAN CHICKEN MEAT

AUTHORS: CARVALHO, F.T.; CARVALHO, R.C.T.; FIGUEIREDO, E.E.S.

INSTITUTION: UNIVERSIDADE FEDERAL DE MATO GROSSO (UFMT), PROGRAMA DE PÓS-GRADUAÇÃO EM NUTRIÇÃO ALIMENTOS E METABOLISMO (PPG-NAM), LABORATÓRIO DE MICROBIOLOGIA MOLECULAR DE ALIMENTOS (LABMMA), AV. FERNANDO CORRÊA DA COSTA, Nº 2367 - BAIRRO BOA ESPERANÇA. CEP 78060-900, CUIABÁ – MT, BRASIL

ABSTRACT:

Listeria monocytogenes is a foodborne pathogen that causes listeriosis, leading to meningitis and septicemia in the elderly, newborns and immunocompromised individuals, and abortion or preterm birth in pregnant women. This disease can have more serious consequences when the bacterium is resistant to the main antibiotics used in clinical treatment. With the increase in the production and consumption of chicken meat in Brazil and in the world, the need for investigations regarding MDR strains is paramount. In this study, we aimed to determine the antimicrobial resistance profile of *L. monocytogenes* isolated from chicken meat produced in the state of Mato Grosso, Brazil. A total of 38 *L. monocytogenes* isolates obtained from chicken meat processing were submitted to antibiograms by agar diffusion. Twenty antimicrobial agents widely used in human and veterinary medical practice were tested (Ampicillin, Cefoxitin, Cefepime, Azpheonam, Imipenem, Gentamicin, Erythromycin, Azithromycin, Chloramphenicol, Florfenicol, Nalidixic Acid, Ciprofloxacin, Enrofloxacin, Rifampicin, Sulphonamide, Trimetropine, Nitrofurantoin, Tetracycline). The growth inhibition zone diameters were interpreted according to the Clinical and Laboratory Standards Institute (CLSI). The *L. monocytogenes* strains were shown to be resistant to at least 04 antibiotics and presented a higher frequency of resistance to 07 antimicrobials: NAL, ATM, CFO, SUL, CPM, CTF, AMP, with AMP being the first antibiotic alternative for the treatment of listeriosis, also applied in association with GEN, which *L. monocytogenes* was also resistant to. *L. monocytogenes* showed low resistance to NIT, CIP, RIF, CLO, TRI, ENO, ERI, intermediate resistance to IPM, FLF, and showed 100% sensitivity to SUT, TET and AZI. *L. monocytogenes* isolates obtained from chicken meat produced in the state of Mato Grosso are, thus, 100% MDR, which shows possible difficulties in the treatment of listeriosis transmitted by the consumption of chicken meat and points to the urgent need for a more rigorous control in the indiscriminate use of antibiotics in the treatment of both human and veterinary infections.

Keywords: Antibiotics, listeriosis, antibiogram method

Development Agency: Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq/ Brasil), Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)