

TITLE: MULTIDRUG-RESISTANT ESCHERICHIA COLI ENTEROPATHOGENIC (EPEC) IN BOVINE CARCASSES.

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ABSTRACT: *Escherichia coli* (*E. coli*) is in second place among microorganisms involved in foodborne diseases outbreaks in Brazil and is among the 4 most important worldwide, due to its importance the purpose of the work was to verify the microbiological quality the presence of EPEC in products of animal origin. A total of 365 *E. coli* strains were isolated by means of swabs from 154 carcasses of cattle slaughtered in the municipality of Mineiros, in the Goiás state. One swab per carcass was used and three collection points were determined in each carcass, the area collected was approximately 100cm² at each point, totaling an area of 300cm² per carcass, the isolates were identified biochemically as belonging to *E. coli* species. The incidence of *E. coli* in the samples collected was 81.65%. Of the isolates, 16 had the gene *eae*, and none presented the genes *stx1* or *stx2*, being therefore characterized as enteropathogenic *Escherichia coli* (EPEC). Their frequency in the carcasses was 9.74% (15/154). The strains were tested for the adhesion genes (*ToxB*, *efa1*), but none had these genes. They were also tested for motility where 100% (16/16) were positive, and for hemolysis where an incidence of 37.5% (6/16) was obtained. The antimicrobial resistance profile was tested in around 15% of the isolated strains (n = 50), and the antibiotics with the highest percentages of resistance among the bacteria were Cephalotin with 82% (41/50), followed by Gentamicin and Amikacin with 26% (13/50) each. Three EPEC strains (8.4E, 10.2C and 18.5E) were resistant to more than 3 classes of different antibiotics and were therefore identified as Multidrug-resistant bacteria. The number and percentage of EPEC and non-EPEC strains with multiple resistance phenotypes were also checked. Even the EPEC presenting a higher percentage of multiple resistance, there was no significant difference, and none of these presented without resistance. No extended spectrum beta-lactamase (ESBL) strain was detected. The presence of EPEC multiresistant in bovine carcasses showing that at some point in the production process there was contamination of bovine carcasses, which calls attention to problems related to public health, with a risk of transmission to humans.

Keywords: bacterial drug resistance, food contamination, animal production, public health.