IAFP Latino 2024
Simpósio Latinoamericano em Segurança dos Alimentos
Santos - SP - Brasil
11 a 14 Nov, 2024

ANTIMICROBIAL RESISTANCE PROFILE OF Escherichia coli ISOLATED FROM THE BONING ROOM OF A SWINE SLAUGHTERHOUSE IN UBERLÂNDIA, MINAS GERAIS, BRAZIL.

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Resistance to antimicrobials is a major challenge in animal production. Due to its indiscriminate use, bacteria have become increasingly resistant, putting antimicrobial therapeutic efficacy at risk. Antimicrobial resistance also poses a danger to public health as it makes treatment of waterborne and foodborne diseases difficult. In view of this, the present work aimed to evaluate the antimicrobial resistance profile in Escherichia coli isolated from meat cuts (MC) and the surface of the cutting conveyor belt (CB) in a swine slaughterhouse located in Uberlândia-MG. Isolates from MC (n=16) and CB (n=11) samples, obtained in a previous study, were subjected to the disk diffusion test (Kirby-Bauer method) to evaluate the phenotypic profile of antimicrobial resistance to: gentamicin – GEN (10mcg), chloramphenicol - CLO (30 mcg), imipenem – IPM (10 mcg), ceftiofur – CTF (30 mcg), ciprofloxacin – CIP (5 mcg), sulfamethoxazole + trimethoprim – SUT (23.75 /1.25 mcg), azithromycin – AZI (15 mcg),aztreonam – ATM (30 mcg), amoxicillin – AMO (10 mcg) and tetracycline – TET (30 mcg). To confirm Extended Spectrum Betalactamase (ESBL) isolates, the double disk diffusion test was performed, using four antimicrobials: amoxicillin with clavulanic acid (20/10 mcg), cefotaxime (30 mcg), ceftiazidime (30 mcg) and cefepime (30 mcg). It was observed that 96.3% (26/27) of the isolates were resistant to AMO, followed by 77.8% (21/27) resistance to CLO, 55.6% (15/27) to CIP and 40, 7% (11/27) to TET, being an alert for public health, as these drugs are commonly used in human and animal medicine. On the other hand, the lowest resistance rate described was to azithromycin (11.1%) (3/27) and all isolates were sensitive to imipenem. It was possible to trace 19 resistance profiles, and among them, four (profiles 1 to 4) were resistant to six classes of antimicrobials. Among the 27 E. coli isolates, 22 (81.48%) were resistant to at least three antimicrobial classes, being classified as multidrug resistant (MDR). Regarding the production of ESBL enzyme, five isolates (18.52%), 1 from CB and 4 from MC, were positive to produce this enzyme. Therefore, this study revealed a high frequency of MDR E. coli isolates and a low frequency of ESBL producers obtained in the deboning environment of a slaughterhouse in Uberlândia-MG. These results serve as a warning for public health, making it necessary to adopt measures that reduce the indiscriminate use of antimicrobials in animal production, improving animal health and food safety.

Agradecimentos: FAPEMIG, CNPq, CAPES