

عنوان مقاله:

Prevalence of Multidrug Resistant Shiga Toxin-Producing Escherichia coli in Cattle Meat and Its Contact Surfaces

محل انتشار:

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خلاصه مقاله:

Background: Shiga toxin-producing Escherichia coli (STEC) are group of E. coli causing bloody diarrhea. The goal of this survey was to determine the prevalence of multidrug resistant shiga toxin-producing E. coli in cattle meat and its contact surfaces. Methods: Swab samples (n=120) were randomly collected from meat and contact surface of butchery shops in Sharkia province, Egypt. Prevalence of E. coli was examined using culture, biochemical, and serological methods. Identification of shiga toxin-encoding genes (stx1 and stx2) in the E. coli serotypes was done using multiplex polymerase chain reaction. Screening of multidrug resistance profile was done using the disk-diffusion method. Data were analyzed using JMP statistical package, SAS Institute Inc., Cary, NC. Results: The prevalence rates of E. coli in the chuck, round, masseter muscles, cuttingboards, walls, and floors were 20, 10, 30, 50, 40, and 60%, respectively. Among the isolates, E. coli O111:H4 and E. coli O26:H11 harbored the two mentioned genes. E. coli O86 and E. coli O114:H21 harbored only stx1; while E. coli O55:H7 encoded only stx2. Just E. coli O124 had no express of stx1 and stx2. The isolated E. coli serovars showed a multidrug resistance profile. Conclusion: Considering the results of this study, strict hygienic procedures should be followed to avoid or reduce carcass cross-contamination. In addition, proper handling and efficient cooking of meat are highly recommended by consumers to reduce the risk of human exposure to STEC.

کلمات کلیدی:

Escherichia coli, Meat, Drug Resistance, Microbial, Polymerase Chain Reaction, Egypt

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