

Antimicrobial Resistance Profile of Escherichia Coli Isolated from pork in Public Markets in Laguna

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Abstract

A total of 27 E. coli were isolated from pork samples purchased from various public markets in Laguna. Methods were adapted from the NARMS (2006) protocol and isolates were identified using traditional biochemical methods and confirmed using RapID™ ONE kit (Remel, ThermoFisher, USA). Minimum inhibitory concentrations (MICs) against 9 critically important antimicrobials were determined using the Clinical and Laboratory Standards Institute (CLSI, 2017) broth microdilution procedure using ATCC 25922 as control. Out of the 19 public markets, 17 were positive for presence of E. coli in pork chops. Among the 27 recovered E. coli isolates, two (7.4%) were suspected as E. coli O157:H7. Resistance were most frequently observed in tetracycline (96%) and doxycycline (93%), followed by cephalothin (89%), trimethoprim (89%), ampicillin (78%), chloramphenicol (70%) and ciprofloxacin (48%); whereas fewer resistant isolates were detected against kanamycin (4%) and gentamicin (4%), with MICs ranging from 4-64 µg/ml. All isolates were resistant to at least three antimicrobials indicating a 100% multidrug resistant bacterial population. These results suggest pork is an important reservoir of antimicrobial resistant E. coli exposing the public to potential health hazard which may facilitate dissemination of resistant genes to commensal and enteric bacteria through the food chain.



Biography

Gladys Pangga has completed her DVM undergraduate programme at her home country (the Philippines) at 21 years of age. She has then finished a masters 2 program at ONIRIS Nantes in France and an international training programme in Food Safety in the University of Ghent in 2019. Currently, she is enrolled at the Institute of Tropical Medicine Antwerp which has a collaboration with the University of Pretoria in South Africa, to study an MSc in Tropical Animal Medicine.

Publications

GMV Pangga, TMA Collantes, Morphological and growth characteristics of primary cell cultures derived from Philippine native Banaba and Rhode Island Red Chicken (*Gallus gallus domesticus* L.), *The Philippine Journal of Veterinary Medicine* 56 (1), 47-56

G Pangga, N Helsens, A Bouju-Albert, A Rossero, H Prévost, S Calvez, Etude phénotypique (identification et antibiorésistance) de la flore listeria dans la matrice filet frais de poisson, *Journées de la Recherche Filière Piscicole*, 86 p.

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