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Antibiotic resistance of *Enterococcus faecalis* isolated from the hearts of broiler chickens

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Antibiotic-resistant *Enterococcus faecalis* present in poultry can pose hazard health serving as the risk of transmitting these strains to humans. The aim of the study was to provide data on antimicrobial resistance in *E. faecalis* isolated from the hearts of broiler chickens, aged from 3 to 6 weeks. 57 isolates of *E. faecalis* were investigated. First, the isolated bacteria were identified using MALDI-TOF mass spectrometry (Bruker Daltonics, Germany). Then, the identification was confirmed by genus- and species-specific multiplex PCR. Susceptibility testing was carried out to determine sensitivity to vancomycin and ampicillin (0.125-64 µg/ml), gentamicin (2-1024 µg/ml), kanamycin and streptomycin (4-2048 µg/ml), erythromycin and tetracycline (0.25-128 µg/ml), ciprofloxacin, lincomycin and chloramphenicol (0.5-256 µg/ml) using the minimal inhibitory concentrations (MICs) assessment. Resistance to two or more antibiotic agents was demonstrated. High resistance (>50%) was shown in the isolates including resistance to lincomycin (100%), tetracycline (63.2%), erythromycin (54.4%) and gentamicin (52.6%). Furthermore, high-level aminoglycoside (gentamicin - 1.8%, kanamycin - 1.8%, streptomycin - 5.3%) resistance was noted. Resistance to ciprofloxacin (21.1%) and chloramphenicol (8.8%) was classified as low (<25%). Moreover, a certain percentage of isolates exhibited intermediate sensitivity, particularly to gentamicin (36.8%), erythromycin (29.8%), and ciprofloxacin (19.3%). Vancomycin and ampicillin resistant isolates were not detected.

Biography

Urszula Kosikowska (PhD) is a Pharmacist, specialist in Medical Microbiology. She is a Lecturer in the Department of Pharmaceutical Microbiology with Laboratory for Microbiological Diagnostics, Medical University of Lublin, Poland. She has published scientific publications in reputed journals, popular articles and conference reports. Her research interests include issues of respiratory microbiota, diagnostics and drug resistance of bacteria and antimicrobial activity of newly synthesized compounds on planktonic and biofilm-forming cells mainly of the genus *Haemophilus* and other selected members of the family Pasteurellaceae.

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