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Molecular detection of virulence factors in antibiotic resistant *enterococcus faecalis* from abattoir, poultry and clinic

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Enterococcus faecalis is a major cause of nosocomial infection in human and has been linked to severe extra-intestinal infections in animals. This study determines the frequency and distribution of antibiotic-resistant *Enterococcus faecalis* (ARE) in poultry, abattoir and clinical environment. A total of the 150 samples including; poultry droppings, abattoir waste-water, and clinical specimens were collected. Standard bacteriological methods were used in isolation and characterization of *E. faecalis*, while disc diffusion technique was used in determining antibiotic resistance pattern of the isolates. Of the 150 samples examined, 53% were positive for *E. faecalis*. The highest occurrence (31.33%) of *E. faecalis* was recorded from poultry samples, followed by (14%) from abattoir samples and the least (8%) from clinical samples. The High antibiotic resistance ranging between 33.3% and 100% were recorded. *E. faecalis* isolates from abattoir shown the highest percentage antibiotic resistance, followed by clinical isolates and least among the poultry isolates. Cefuroxime, Erythromycin and Augmentin were less effective against selected *E. faecalis* isolates while Ofloxacin was highly effective. Molecular detection of each of the genes coding virulence factors - enterococcal surface protein (esp), aggregation substance (asa1) and collagen-binding protein (*ace*) in E.faecalis revealed; presence in four isolates (EKSG-3, EKSG-7, EKSG-11, EKSG-20), three isolates (SP2B1, SP2A1, PKL-41) and none from abattoir, poultry and clinical samples respectively. The study revealed high incidence of antibiotic resistant *E. faecalis* with virulence potentials in the studied areas especially abattoir which could serve as a reservoir for antibiotic-resistant strains. Hence, need for enforcement of good hygiene practice and constant epidemiological surveillance.

Biography

A K Olawale lectures as a Senior Lecturer in the Department of Biological Sciences (Microbiology and Biotechnology unit), Afe Babalola University, Ado-Ekiti. Nigeria. He has PhD in Medical Microbiology. He possessed excellent experience in the clinical diagnosis and scientific research in molecular epidemiology and pathogenesis, emerging infectious diseases, antimicrobial resistance, pathogens fingerprinting, molecular analysis of human pathogen virulence, development of new antimicrobials and immunology. He has made some modest contributions in these major areas of Microbiology with notable publications in peer-reviewed learned journals.

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