ABSTRACT

Multiple antibiotic resistant index and detection of qnrS and qnrB genes in bacterial consortium of urine samples from clinical settings

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ABSTRACT

The multiple antibiotic resistant (MAR) index and detection of resistant genes in the bacterial consortium of urine samples collected from University of Medical Sciences Teaching Hospital, Akure (UNIMEDTH) was evaluated with all microbiological and biotechnological techniques employed utilizing specified standards in this study. Escherichia coli had the highest bacterial count (311.50 ± 0.707 CFU/ml) while Staphylococcus saprophyticus had the least (13.00 ± 2.828 CFU/ml). Enterococcus faecalis, and Pseudomonas aeruginosa isolate showed marked resistance against four classes of antibiotics tested.

Key Words: *Antibiotics; Anti-pseudomonal; Resistance; Resistant genes; Urine, Quinolones..*

INTRODUCTION

The MAR index of bacterial isolates ranged from 0.5 to 1.0. Fluoroquinolone-resistant P. aeruginosa identified to be P. aeruginosa via 16S rDNA analysis sequence analysis of 417 base pairs with strain mcbay1 deposited in GenBank with accession number MT423976 was positive for qnrS resistant gene. E. faecalis identified by 16S rRNA sequence analysis of 264 bp of the strain mcbay 2 deposited in GenBank with accession number MT423977 was also positive for qnrB resistant gene. The presence of resistant genes in ciprofloxacin-resistant P. aeruginosa and quinolone-resistant E. faecalis in urine samples further emphasized the need for the regulation of over-the-counter prescription and antibiotic susceptibility survey of anti-pseudomonal and antienterococcal quinolones in hospital settings.

BIOGRAPHY

Bayode, Michael Tosin has completed his masters in Pharmaceutical Biotechnology and Public Health Microbiology at the age of 28 years from Federal University of Technology Akure, Nigeria. He's currently looking for doctoral research opportunities in Biomedical Sciences specifically in Pharmaceutical Biotechnology from Europe. He is a prospective doctoral researcher with 4 years strong research experience. He has published more than 10 papers in reputed local and international journals and has been serving as a reviewer for Bacterial empire.

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