Beta-Lactamase Mediated Resistance in Bacterial Infections Associated with Breast and Cervical Cancers at Lagos University Teaching Hospital (Luth), Lagos


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Background: Bacteria infections associated with multidrug resistance have been implicated in the high mortality and morbidity, reported amongst cancer patients. This study determined beta-lactamase mediated resistance in Gram-negative bacteria isolates from patients attending the Radiology and Oncology Clinic of Lagos University Teaching Hospital between April and November, 2006.

Methods: One hundred and nineteen samples were analysed and isolates were characterized using the analytical profile index (API) test. Antimicrobial susceptibility patterns were performed using the disk diffusion method while beta-lactamase and Extended-Spectrum Beta-Lactamase (ESBL) production were investigated using the nitrocefin disc and the double disk synergy test respectively.

Result: Sixty-one Gram-negative bacteria were recovered. K. pneumonae, Citrobacter amalantonatus, E. coli, P. mirabilis, A. baumanaini, Enterobacter cloacae and Stenotrophomonas malthophilia were amongst strains isolated. 93.4% of strains isolated were found to be sensitive to imipenem. Of the 61 strains, 55 (90.2%) produced beta-lactamase enzymes; 20 (32.8%) were found to be ESBL-producers while 14 (23%) produced AmpC enzyme. AmpC production was observed in E. coli, Enterobacter cloacae, Serratia liquefaciens and Klebsiella species. Most of the ESBL-producers were multi-resistant to the fluoroquinolones and aminoglycosides. Plasmid analysis was performed on each bacteria showing multi-drug resistance. Most of the ESBL-producers were multi-resistant to the fluoroquinolones and aminoglycosides. Plasmid analysis was performed on each bacteria showing multi-drug resistance.

Conclusion: The result of this study has shown a high occurrence of beta-lactamase mediated resistance amongst clinical strains from cancer patients. Thus utmost attention needs to be given to continuous surveillance of antimicrobial resistance pattern, amongst these patients, for appropriate treatment.

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Detection of Antibiotic Resistance and Virulence Related Factors in Escherichia coli Isolates from Broiler Chicken in Limuru, Kenya

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Background: The use of antibiotics and disinfectant in broiler farms is very common compared to other poultry farms. Antimicrobial usage is considered the most important risk factor promoting the emergence, selection and spread of antimicrobial-resistant microorganisms in environment, veterinary and human medicine.

Methods: The aim of this study was to investigate multidrug resistance and presence of virulence related genes in caecal Escherichia coli isolates from healthy broiler chicken at slaughter time. One hundred and seventy three E. coli isolated from caecal samples of broiler chickens were screened including Nepal. Knowledge of antimicrobial susceptibility patterns of the causative agents is of utmost importance in the institution of appropriate therapy. Present study was undertaken to evaluate the antimicrobial susceptibility patterns of Salmonella Typhi and Salmonella Paratyphi A with special reference to multi-drug resistance and susceptibility to ciprofloxacin in a tertiary care teaching hospital in eastern Nepal.

Conclusions: Number of MDRST has declined but resistance to ciprofloxacin has emerged among Salmonellae isolated in our set up. Salmonellae with susceptibility to ciprofloxacin are more prevalent. Nalidixic acid susceptibility could be a useful screening test for the detection of such strains. A continuous surveillance is essential for monitoring and early detection of resistance.

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