

MICROBIAL BURDEN OF DIABETIC FOOT ULCERS: THE CALABAR SCENARIO

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Foot ulcers in diabetes mellitus subjects are a leading cause of morbidity and mortality which culminates in non-traumatic amputations worldwide. Knowledge of the microbial burden in the ulcers may improve patients care and management. This prospective study was designed to isolate, identify, and carry out antibiotic susceptibility testing on bacterial isolates associated with diabetic foot ulcers among subjects in University of Calabar Teaching Hospital. Subjects with diabetic foot ulcer were recruited after obtaining ethical clearance from the Research Committee and informed consent from the subjects. Samples were obtained from subjects using sterile swabs and subjected to microscopy and culture. Isolates were identified using standard bacteriological techniques. Antibiotic susceptibility testing was done by Kirby-Bauer method. Out of the 50 subjects recruited for the study, 31 (62.0%) were females while 19 (38.1%) were males with a mean age of 55.4 ± 10.1 and a minimum age of 40.0 years. All the subjects had grade four wounds. The study recorded 100% infection rates among subjects with 70.0% polymicrobial infections. A total of 97 isolates were encountered among the 50 subjects accounting for the average of 1.94 isolates per subject. The most prevalent isolate was *Staphylococcus aureus* 32 (32.9%), while the least prevalent pathogen was *Klebsiella pneumonia* 10 (20.4%). *Candida* isolates were associated with 15 (30.0%) of the subjects. Females harbored more isolates 61 (62.9%) than males 36 (37.1%) but there was no statistically significant effect of gender on infection rates ($\chi^2=15.0$, $p \geq 0.05$). Erythromycin was the most effective (65.6%) against *S aureus* while gram-negative bacteria were more susceptible to Augmentin (87.5%) and ciprofloxacin (75.0%). The study has shown a high index of wound contamination with bacteria and fungi. The multiple antibiotic resistance of the bacterial isolates calls for the need to monitor resistance. Antifungal agents should be administered alongside antibiotics to subjects with *Candida* infection.

BIOGRAPHY

Ogba Ofonime M has completed her PhD from University of Calabar, Nigeria. She is a Senior Lecturer in the University of Calabar, Nigeria. She has over 35 publications that have been cited over 35 times, and her publication H-index is 3.0 and has been serving as an Editorial Board Member of reputed journals. She has professional associations with over 10 professional body including: Association of Medical Laboratory Scientists of Nigeria (AMLSN), Medical Laboratory Science Council of Nigeria (MLSCN), American Society of Microbiology (ASM), International Society for Human and Animal Mycology (ISHAM), Organization for Women in Science for Developing World (OWSD), Nigeria Cancer Society (NCS) and African Society for Laboratory Medicine (ASLM). Her research interest is on Dermatology and skin infections and antibiotic/antifungal susceptibility studies.

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