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Culture-based screening of aerobic microbiome in diabetic foot subjects and developing non-healing ulcers

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The study was carried on diabetic foot patients to deduce clinical attributes, the occurrence of the range of aerobic microbial flora and to assess their comparative *in vitro* susceptibility to the customarily used antimicrobials. We also studied the potential risk factors involved in the development of non-healing ulcers. A total of 87 organisms were isolated from 70 specimens, including *Escherichia coli* (19.5%) among the Gram-negative and *Staphylococcus aureus* (18.4%) among the Gram-positive as the predominant aerobes explored. *Pseudomonas aeruginosa* and *Escherichia coli* were predominant isolates of non-healing ulcers. The antimicrobial sensitivity pattern revealed that Vancomycin (100%) and Amikacin (90.4%) exhibited highest sensitivity to Gram-positive cocci, while all strains of *Pseudomonas aeruginosa* were sensitive towards Imipenem (100%). The prevalent of uncontrolled glycemic status, altered lipid spectra, the existence of neuropathy and peripheral vascular disease, suggested the predisposition towards the development of non-healing lesions. The study has underlined the need for continuous surveillance of bacteria and their antimicrobial sensitivity blueprints to provide the basis for empirical therapy and to minimize the risk of complications. Further, stringent clinical evaluation and medical history will help in revealing the risk of developing non-healing status in diabetic foot ulcers.

Biography

Saba Noor is a Research Scholar and presently pursuing PhD in Endocrinology, Faculty of Medicine, Aligarh Muslim University, India. She has completed her Masters and Graduation in Biochemistry from same institute. She has published two articles and two reviews in peer-reviewed reputed international journals and working to improvise diagnostic tools implemented in exploring microbial spectrum and immunological studies among diabetic foot patients.

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