

ABSTRACT

Staphylococcus aureus is a predominant pathogen isolated from diabetic foot ulcers. In recent years, complications-related to diabetic foot infections has increased due to increased incidence of antibiotic-resistant bacteria. Management of these infections requires appropriate antibiotic selection on the basis of culture and susceptibility test results. Although diabetes is among the top ten causes of mortality in Vihiga, most public hospitals in Kenya do not isolate and conduct antimicrobial susceptibility tests for diabetic foot ulcers. This makes the prevalence and antimicrobial susceptibility of *S. aureus* infection uncertain. This study investigated prevalence and antimicrobial susceptibility of *S. aureus* isolated from diabetes mellitus patients with foot ulcers at Vihiga County Referral Hospital, Kenya. Specifically the study determined prevalence of *S. aureus* infection and susceptibility of *S. aureus* isolated from Diabetes mellitus patients with foot ulcers at Vihiga County Referral Hospital, Kenya to penicillin G, ceftriaxone, gentamicin, vancomycin and linezolid. The study adopted a hospital based cross-sectional study design with a population of 225 participants. A sample size of 156 participants was recruited using simple random sampling technique. A questionnaire was administered for bio-data collection while a laboratory form was used to gather antimicrobial susceptibility information. Pus swabs were collected for *S. aureus* screening. Laboratory tests involved Gram staining, inoculation on Blood agar plates at 37°C for 24 - 48 hours, coagulase test and Kirby- Bauer disk diffusion on Mueller Hinton Agar. Percentages were used to present prevalence and antimicrobial susceptibility. Results indicated 60.3% prevalence of *S. aureus*. There was 100% resistance to penicillin G, a susceptibility rate of 35.1 % to ceftriaxone, 36.2% to vancomycin, 38.3% to gentamicin and 60% to Linezolid. The study concluded that diabetes mellitus patients with foot ulcers are prone to *S. aureus* infection. *S.aureus* isolated from diabetic patients with foot ulcers at Vihiga County referral hospital was resistant to penicillin G and linezolid was the most effective first line antibiotic. In view of this, the study informs health practitioners the importance of *S.aureus* screening for appropriate antibiotic prescription to reduce infection rate among diabetes mellitus patients and recommends adoption of diabetic foot ulcers screening to ensure that bacterial infections are detected and appropriate medication prescribed to patients in good time.