

Distribution and prevalence of microorganisms causing diabetic foot infection in Hospital Serdang and Hospital Ampang for the year 2010 to 2014

ABSTRACT

Background: In developing countries like Malaysia, the prevalence of diabetes mellitus is increasing at an alarming rate. Various complications develop in patients diagnosed with diabetes. Diabetic foot is one such complication that is a threat to morbidity and mortality rate owing to its risk of amputation. Understanding the microbiology of diabetic foot infection becomes an essential part of management as it can help to channel the exact treatment rather than empirical treatment. **Aim:** To determine the distribution and prevalence of microorganism causing diabetic foot infection in Hospital Serdang and Hospital Ampang for the year 2010 till 2014. **Methodology:** This was a cross-sectional study using retrospective data from January 2010 to December 2014 of 885 patients with diabetic foot infection in Hospital Serdang and Hospital Ampang, tertiary hospitals in Klang Valley. Data were analyzed using IBM SPSS Statistics version 22.0 for Windows. **Results:** A total of 1356 pathogens were isolated from 885 patients, with a rate of 1.53 isolates per culture (IPC). The prevalence of gram-negative bacteria was predominant in DFI accounting for 71.27% whereas gram-positive was only 28.73%. Among the gram-negative isolates, the most common pathogen was *Pseudomonas aeruginosa* accounting for 24.49% followed by *Proteus mirabilis* (14.34%) and *Klebsiella* spp. (11.12%). Gram-positive isolates consist of *Staphylococcus aureus* with a percentage of 66.77% and *Streptococcus* spp. 33.23%. The Methicillin-Resistant *Staphylococcus aureus* (MRSA) accounts for 26.24% of the isolates. There were more monomicrobial cultures than polymicrobial culture (465 vs. 420). The most common antibiotic prescribed is ampicillin/sulbactam (55.57%) followed by cloxacillin (13.29%) and penicillin (10.77%). **Conclusion:** The prevalence of gram-negative bacteria in DFI is higher than gram-positive bacteria. The most common gram-negative bacteria is *Pseudomonas aeruginosa* followed by *Proteus mirabilis* and *Klebsiella* spp. whereas the most common gram-positive bacteria is *Staphylococcus aureus*. The rate of monomicrobial infection is slightly higher than polymicrobial infection. Ampicillin/sulbactam is the most commonly prescribed antibiotic for a patient with DFI.

Keyword: Prevalence; Diabetic foot infection