

Clinical presentation and microorganisms sensitivity profile for diabetic foot ulcers: a pilot study

ABSTRACT

Introduction: Patients suffering from diabetes mellitus (DM) frequently present with infected diabetic foot ulcers (DFU). This study was done to record the anatomical site and the grade of ulcers according to Wagner's classification and to culture the microorganisms from the ulcers and determine their antibiotic sensitivity.

Materials and methods: Prospective study was conducted on 77 diabetic patients who were admitted with DFU from June until December 2011. Patients with end stage renal failure, those who had previous vascular surgery on the involved limb, or hyperbaric oxygen or maggot therapy for the ulcers, or had unrelated skin diseases around the involved foot were excluded from the study. Specimens for culture were obtained by a sterile swab stick or tissue sample was taken from the wound with sterile surgical instruments.

Results: Wagner's grade III and IV ulcers were most common. Majority of the ulcers involved toes (48%). Gram negative microorganisms were predominantly isolated (71.1%). Gram positive microorganisms were less frequently cultured (27.7%). Fungus was cultured from one sample (1.2%). Gram negative microorganisms were sensitive to aminoglycosides, cephalosporins or β -lactamase inhibitors. More than 40% were resistant to ampicillin. Gram positive microorganisms were sensitive to cloxacillin. MRSA were sensitive to vancomycin.

Conclusion: Empirical use of antibiotics should be curtailed to prevent development of drug resistant strains of microorganisms and MRSA. We suggest use of antiseptic solutions to clean the ulcers until antibiotic sensitivity report is available. Results of our altered treatment regimen we plan to publish in a later study.

Keyword: Antibiotic sensitivity; Diabetic foot ulcer; Microbial culture