

P37 Lower Limb Cellulitis among Diabetes Patients, Dar es Salaam, Tanzania: Analytic Studies of Associated Risk Factors.

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Introduction: Foot infections are common among patients with diabetes mellitus (DM) in Africa. Certain infections, such as cellulitis, are treatable and potentially preventable. However, limited microbiology services and therapeutic alternatives often preclude optimal medical management. Therefore, we carried out epidemiologic studies to identify risk factors for lower limb cellulitis (LLC) among patients attending the DM clinic at Muhimbili National Hospital (MNH), Dar es Salaam, during Nov 2002-December 2005 (study period).

Methods: Two retrospective case-control studies were conducted. A case was defined as any DM patient who presented to the MNH clinic with LLC during the study period. Consecutive, adult patients who met the case definition were enrolled after informed consent. Detailed historical, clinical and epidemiologic data were recorded. The first control group (CG1) consisted of 250 DM patients who had no history of LLC or foot ulcers; the second control group (CG2) consisted of 250 DM patients with foot ulcers but no LLC. Odds ratio (OR) and 95% confidence interval (CI) were calculated.

Results: Of 125 patients who met the case definition, 82 (66%) were male. Median age was 56 (range: 25-78) years; median body mass index: 25.8 (range: 17-46) kg/m²; median duration of diabetes: 9 yrs (range: 2 weeks-29 yrs). On comparison with CG1, risk factors strongly associated with LLC included: skin erosion or ulcers on foot or leg (122/125 vs. 0/250, p <0.0001); nephropathy (OR: 8.9, CI: 2.6-36.9); or type 1 diabetes (OR: 3.2, CI: 1.02-10.5). When compared with CG2, case-patients were significantly more likely to have sustained blisters, boils or burns (OR: 1.8, CI: 1.1-3.0) and to have had complete resolution of LLC and ulcer healing following empirical antimicrobial therapy (OR: 8.0, CI: 3.6-18.6).

Conclusion: Risk factors for LLC in DM patients in Tanzania include the presence of skin lesions and ulcers in the lower limb that are potential sites of pathogen entry. The fact that empiric antimicrobial therapy is effective in the treatment of LLC and in achieving complete healing of ulcers suggests that infections might be playing a larger role in the pathogenesis of foot ulcers in Africa than was previously thought. Reduction of preventable accidents, such as burns, blisters, or injury in the lower limb may potentially reduce the incidence of LLC