

The spectrum of lower extremity disease on a single day in Tanzania

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In order to determine the spectrum of lower extremity disease, and factors associated with foot ulceration in a resource poor community, clinical and demographic data were recorded on all people with diabetes attending one of 16 diabetes clinics in 14 regions of Tanzania on World Diabetes Day, 2005 - the year of the Diabetic Foot. Mean age (SD) of the 1155 patients was 53.1 (13.0) years and 56.1% were male. 1046 (90.6%) were African, 83 (7.2 %) were Indian and 26 (2.3%) were Arabs. 84 (7.3%) and 1070 (92.6%) had type 1 and type 2 diabetes, respectively. There was a family history of diabetes in 44.3%. Median (IQR) duration of known diabetes was 5.00 (3.0-10.0) years. The prevalence of distal symmetrical sensory neuropathy (DSSN) ranged from 33.3% (vibration perception) and 40.4% (cotton wool) to 42.7% (10g monofilament). Dorsalis pedis and posterior tibial pulses were palpable in 89.6% and 90.6%, respectively. 194 (16.8%) were current smokers. Foot deformity (bony prominence), limited joint mobility (LJM) and abnormal callus were present in 5.5%, 6.4% and 10.7%. Footwear was either non-existent (19.1%) or inappropriate in 59.0%. 308 (26.7%) had a history of past foot ulcer and 75 (6.5%) had an amputation. 161 (13.9%) had an active ulcer. When those with active or previous ulceration or amputation were compared with those without, very strong statistically significant differences ($p=0.000$, Pearson Chi square >50.000) were found for positive family history of diabetes, deformity, callus, LJM, DSN and barefoot walking. There were strong differences ($p=0.000$, Chi square <50.000) for missing pulses, peripheral arterial and cerebrovascular disease, smoking and inappropriate footwear, but none ($p>0.05$) for diabetes type and duration, and ischaemic heart disease. Although this population was selected by attendance at particular clinics on a certain day, these data reveal the very strong association between DSSN and foot disease in an African population which is relatively young. Preventive programs focusing on identification of DSSN and encouragement of the use of protective footwear should be established in resource poor communities such Tanzania. Further research is required to investigate the significance of the association between foot disease and a positive family history of diabetes and why neuropathy is so prevalent in this population despite the short median duration of known diabetes.