A retrospective analysis of patients undergoing minor foot amputations over 5 years at a tertiary diabetic foot clinic

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Background:

Patients with diabetes are around 30 times more likely to have a foot amputation than the general population. A history of amputation is associated with significant morbidity & mortality[1]. Recent data has showed regional variations in amputation rates across the UK [2]. Since 2007 we have run a joint multidisciplinary foot clinic comprising specialists in podiatry, diabetes, vascular and orthopaedic surgery. We aimed to describe the characteristics and outcomes of patients undergoing minor amputations for diabetes related foot disease over a 5 year period at our institution.

Methods:

We performed a retrospective analysis of patients undergoing a minor amputation between January 2008 and December 2012 looking to see what comorbidities were present in our population at the time they underwent minor amputation.

Results:

During the study period 248 patients underwent 278 amputations.

The main reasons for amputation were peripheral vascular disease in 108 cases (43.5%); soft tissue infection in 53 (23.4%); osteomyelitis in 48 (22.6%); other causes in 7 (2.8%); ulcers in 23 (9.3%). At the time of data collection, notes were unavailable for 26 cases (10.5%)

71 patients (28.6%) who underwent an amputation had previously recorded peripheral vascular disease

106 patients (42.7%) had previously recorded peripheral neuropathy

The average length of hospital stay was 21.2±19.2 days

84 patients (33.8%) had their amputation revised during the follow up period of up between 1 and 5 years. Of these 84 revisions, 44 were further minor amputations, 33 were below knee amputations, 5 were above knee & 2 revisions were of unknown type. In 29 patients (11.7%), the follow-up status after 5 years was not known.

91 patients (36.7% of the initial cohort) died during the 5 years of follow up.

At the time of preparation of this abstract, data is still being collected in anticipation of the full paper

Baseline characteristics ($\pm$SD)	
Mean age	69.5 (13.5)
M:F ratio	2:1
Type of diabetes (T1DM: T2DM) (%)	18.5:81.5
Mean Hba1c (mmol/mol)	66.4 (20.9)
eGFR (mL/min/1.73m^2)	60.1 (25.0)
Urinary albumin/creatinine ratio (mg/mmol)	21.7 (58.9)
Presence of retinopathy (%)	46

Discussion: Our data are consistent with that of others to show a very high mortality in this group of patients[1] . We have shown that at the time of minor amputations, most patients for whom we had data had the triad of microvascular complications – neuropathy, retinopathy and nephropathy. This is consistent with a recent analysis showing that diabetes related foot ulceration is more than a marker of complication status[3]. It is likely that a minor amputation is a manifestation of multiple underlying co-morbidities. Previous data has looked at mortality for ulcers, and our data show a similar mortality rate for minor amputations. We feel that amputations are a further stage in disease severity, and therefore with a mortality rate that is not higher this may suggest that the early, aggressive intervention of an experienced multidisciplinary specialist team, may be of benefit

1. Moulik PK, et al. Amputation and mortality in new-onset diabetic foot ulcers stratified by etiology. Diabetes Care 2003;26:491-4. 2. Holman N, et al. Variation in the incidence of amputation of the lower limb in England. Diabetologia 2012;55:1919-25. 3. Martins-Mendes D, et al. The independent contribution of diabetic foot ulcer on lower extremity amputation and mortality risk. Journal of Diabetes and its Complications 2014;28:632-8