

Awaiting auto-amputation: a primary management strategy for digital gangrene in diabetic foot disease

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Background and aims: Necrotic toes in subjects with diabetes can result from both critical ischaemia and from septic endarteritis due to infected neuropathic toe lesions. The standard management is surgical amputation. If after initial antibiotic treatment for infection the area of gangrene is dry and well-demarcated, we have offered subjects a non-surgical option of awaiting auto-amputation. We aimed to assess outcome in subjects where the primary management strategy was to await auto-amputation. Subjects and methods: We performed a retrospective cohort study to assess outcome in such subjects who had presented to the multidisciplinary diabetes foot clinic between February 2007 and February 2010. Results: Ten subjects were identified with gangrene affecting the distal part or the whole of one or more toes. Mean (standard deviation) age was 55 (17) and duration of diabetes 29 (9) years. Four had Type 1 and 6 Type 2 diabetes (age ranges 36 - 54 years and 42 - 86 years respectively). All had peripheral neuropathy and concurrent diabetic retinopathy. Eight required renal replacement therapy, 5 with functioning renal transplants and 3 on haemodialysis. All subjects had variable distal arterial disease identified on arterial duplex studies ± digital subtraction angiography, without obvious revascularization options. One had 4 gangrenous toes; in the other subjects 1 toe was affected. The distal part of a toe was affected in 4 subjects, and one or more whole toes in 6. All had infection at initial presentation treated with antibiotics. Five (50%) had successful auto-amputation of the necrotic tissue, 3 of whom had required treatment for at least one further infective episode. Median (range) time to auto-amputation was 4 (2 - 7) months. Four required surgical amputation due to further infective episodes that failed to respond to antibiotic therapy; 3 required Ray and 1 transmetatarsal amputations. Median (range) time to surgical amputation was 7 (4 - 9) months. Two subjects died of cardiovascular disease: one while awaiting auto-amputation and one following surgical amputation. Significant pain was experienced by 1 who underwent successful auto-amputation and 2 who required surgical amputation. Conclusion: This is the first report of a cohort of subjects with diabetes in whom auto-amputation was the primary management strategy for digital gangrene. Most required renal replacement therapy. Success rate was 50%.