

Medicine for Managers

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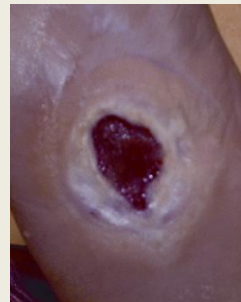
The Diabetic Foot

Diabetic patients are at risk of a variety of complications and long term management of the disease is increasingly focused on the key problems associated with the feet, as well as the risks of heart disease, stroke, renal failure, visual deterioration and loss, bowel disorders and impotence. Like so many problems severe foot disorders are the result of progressive peripheral vascular disease and neuropathy.

If the feet are not cared for, particularly in those patients with poorly controlled diabetes, the likely outcome will be frequent foot disorders which may become severe and lead to infections, ulceration, spreading gangrenous infection and ultimately amputation.

The problem of neuropathy (nerve damage), which results in loss of sensation to the feet, and peripheral vascular disease, which impairs the normal nutritional and healing functions of the feet, means that they are exposed to damage which cannot be effectively repaired. In consequence any damage to the foot may be perpetuated and can result in the development of ulceration and infection. Somewhere between one in fifteen and one in twenty of diabetic patients have an active foot ulcer. In areas poorly supplied with blood the breakdown of the skin allows the entry of infection which may be progressive and which may not respond so well to antibiotic therapy.

A diabetic ulcer is often painless, is surrounded by a thick area of keratinised callus, and is commonly infected. It is smelly and may have a purplish coloration.



Diabetic heel ulcer

The ulcer may become very large and deep with infection spreading to bone and joints. The consequences may be osteomyelitis and spreading infection as a result of impaired defence systems. Ultimately such infections may become life threatening with the development of septicaemia unless effectively controlled, often by amputation. In the United Kingdom about 2-3 diabetics per 1,000 have had an amputation of part or all of a foot.

Sometimes a foot with advanced sensory loss, chronic infection affecting skin, bone and joint with severe structural damage is described as a 'Charcot Foot', named after Jean-Martin Charcot, an eminent nineteenth century Parisienne neurologist and professor of anatomy. The foot appears swollen and feels hot. Intensive therapy is required to avoid amputation.

To avoid foot problems a good general approach is mandatory with attention to good control of blood sugar, control of blood pressure and cholesterol, smoking cessation and weight management to achieve a satisfactory BMI. Foot care is essential for every diabetic patient.

A comprehensive approach involving patient education to maintain foot health and to identify any early changes which might lead to more complex problems is very important.

The education should include routine foot care, hygiene, nail care, inappropriate practices such as trimming calluses or applying proprietary treatments and the potential consequences of neglecting the feet.

Any inflammatory, infective or ulcerative change should be reported immediately so that appropriate care can be provided. Good quality footwear which does not lead to calluses or ulceration is necessary.

If any infection or ulceration occurs urgent medical care is required to provide the necessary treatment. Regular routine foot checks will also identify any sensory loss or

arterial disease; foot pulses and the use of Doppler ultrasound to assess vessel patency and flow acts as an early warning of impending complications.

Diabetic patients will be recalled for regular routine foot inspections. For the general practices, the Quality and Outcomes Framework requires an annual inspection. During such examinations the patients' feet will be inspected for deformity or signs of ulceration and infection. Sensation and pulses will be checked. They will be exhorted to contact their GP or podiatrist if they notice any foot changes such as pain, discolouration or signs of infection. Higher risk patients will be seen more frequently, usually by the local podiatry service and many services have open access facilities for patients who notice any deterioration in their feet.

With good diabetic control, attention to blood pressure and cholesterol and a smoking ban, good foot care will ensure that they remain healthy. If patients develop foot ulcers their risk of an amputation is increased but with appropriate surveillance and treatment and good monitoring, re-ulceration can be minimised.

However, in patients who do not comply with the foot care programmes and in whom ulceration develops and progresses, amputation becomes more likely and post-amputation survival is poor with one in seven patients dying in the peri-operative period following such surgery.

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