Management of foot ulceration in the high risk patient

Julia Shaw and John McCarry

Summary

This article describes the treatments of three patients referred to the podiatry clinic with different foot wounds. Patients received treatment with an iodine dressing, an alginate dressing or a collagen/oxidised regenerated cellulose dressing. Each patient was treated with Allevyn compression as a secondary dressing. There was no evidence of deterioration in any of the wounds. Allevyn compression may be useful as a secondary dressing in the management of foot wounds.

Foot ulceration affecting patients presenting with peripheral vascular disease (PVD) and/or diabetes and also peripheral neuropathy (PN) can lead to limb amputation in many cases and can also be life threatening (Boulton, 2000). Successful multidisciplinary management of foot ulceration focuses on a number of key factors including management of PVD and PN, eradication of infection, optimal glycaemic control, effective pressure relief, appropriate wound debridement and the application of a suitable dressing (Edmonds and Foster, 2000). It is recognised that the evidence base for successful treatment regimens for management of the high risk foot is somewhat limited and therefore decisions are often based purely on empirical knowledge (experience) and the skill of the clinician (Foster, 2002). As well as this, practitioners are often faced with a plethora of dressings from which to choose in order to achieve a successful outcome. It is therefore essential that decisions are based on sound clinical judgement and the best evidence base available.

Method

Three patients who had been referred to the podiatry clinic with very different wounds were selected to participate in this small case series.

Patient A (*Figure 1*)

Patient A, a 48-year-old male with type 1 diabetes for over 20 years, presented with a burn on the dorsum of the right foot that had been present for approximately 1 week. Pedal pulses were bounding and arterial flow was typical of that seen in a neuropathic diabetic foot. A classic Charcot deformity was observed on the mid foot. The patient was a non-smoker and had a 10 year history of limb threatening ulceration, surgery and amputation.

Figure 1. Patient A with a new diabetic foot ulcer caused by a burn

Figure 2. Patient B with a neuroischaemic diabetic foot ulcer

Patient B (*Figure 2*)

Patient B, a 76-year-old male with a 3 year history of type 2 diabetes, peripheral neuropathy and PVD presented with neuroischaemic ulceration affecting his right heel. Two years ago patient B had had an amputation of the right 5th toe and vascular reconstructive surgery.

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Figure 3. Patient C with aggressive atheromatous disease

Figure 4. Patient A with complete wound closure

Figure 5. Patient B with complete wound closure

Figure 4. Ongoing care for patient C

'Allevyn compression may be indicated for use as a secondary dressing in low to moderately exuding wounds. It may also be useful as a primary dressing in superficial and some acute wounds.'

Patient C (*Figure 3*)

Patient C, a 76-year-old male, with a history of aggressive atheromatous disease leading to critical ischaemia of his right leg, presented with two areas of long standing ulceration on the right foot. He had undergone surgery to remove the 2nd metatarsal head due to osteomyelitis and had limited healing in the wound. Another area of ulceration affected the great toe. Patient C also presented with spinal arthritis causing compression of the spinal nerves resulting in reduced sensation in both feet. He did not have diabetes.

Treatment

All patients were treated with good standard wound care as previously described. Patient A's burn was dressed with an iodine impregnated dressing and patient B's heel ulcer was treated with an alginate dressing. Patient C was treated with a collagen/oxidised regenerated cellulose dressing. Allevyn compression – a highly absorbent sterile foam – was used as a secondary dressing in all cases. Adhesive tape was used to secure the dressings. All patients were reviewed on a weekly basis.

Results

The burn on the neuropathic diabetic foot closed in 2 weeks (*Figure 4*). The neuroischaemic diabetic heel ulcer closed in 4 weeks (*Figure 5*) and treatment continues for patient C (*Figure 6*). There was no evidence of deterioration or worsening infection in any of the wounds.

Discussion and conclusions

Our initial findings suggest that Allevyn compression may be useful as a secondary dressing in the management of foot wounds with a granulating wound base and with a low to moderate amount of exudate, providing that the wounds are receiving a good standard of wound care. The patients found the dressing very comfortable, painless at dressing changes due to ease of removal and gentle on the skin surrounding the ulcers. The dressing did seem to absorb wound exudate effectively and excessive maceration, which is often a major problem when dressing the diabetic foot, was avoided.

All three patients were anxious about being admitted to hospital for some form of surgery or amputation. This has not happened so far. Allevyn compression may be indicated for use as a secondary dressing in low to moderately exuding wounds. It may also be useful as a primary dressing in superficial and some acute wounds. Contraindications may include digital necrosis, heavily exuding wounds and black heels. Results from this study should be interpreted with caution and work is ongoing to provide a more robust case series. ■

These results were presented as a poster at Wounds UK, Harrogate, 2003

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