

TREATMENT OF A VENOUS LEG ULCER FOUND IN AN INTRAVENOUS DRUG USER

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PATIENT DETAILS AND HISTORY

A 48-year-old man who had been identified as a long-term intravenous drug user, presented at clinic with a large ulcer over the calf area of his left leg (*Figure 1*).

The patient had received previous treatment for infected abscesses because he had been injecting heroin into the veins of the lower leg. The formation of abscesses caused the skin to breakdown to form a large ulcer (*Figure 1*); these abscesses could have been the result of a variety of factors such as injecting under the skin, the quality, solvency and cleanliness of the drug injected, the equipment used and the sharing of needles and the use of unclean equipment (Finnie and Nicholson, 2002). Long-term injecting can result in sclerosis (hardening of body tissue, in this case veins) and thrombosis (formation of a blood clot in the vein) of most superficial veins. Some users may inject directly through the skin surface and the drug is absorbed subcutaneously, leading to abscess formation, infection and scarring that presents as small circles on the skin (Finnie and Nicholson, 2003) (*Figure 1*).



Figure 1. Initial presentation of the ulcerated leg.

In this case the patient had multiple scars on both legs from the top of the thigh to the feet from previous abscesses which had all had been treated successfully.

The patient had no other medical history of note and was not taking any prescribed medication. On this occasion the ulcer was large and had deteriorated in a matter of weeks. When the patient presented at the clinic he was hot and sweaty and the leg was very painful with evidence of infection (malodour and increased exudate). It was green in colour and the area was hot to touch, with sloughy tissue at the wound bed (*Figure 1*).

The holistic assessment included an ankle brachial pressure index (ABPI) measurement; the reading from the right leg was 1.0 and the left leg was 1.0 (both within normal limits), which ruled out the presence of arterial disease. It became clear that this patient required hospitalisation, not only for the systemic infection he had, which was apparent from the patient's raised temperature and generally feeling unwell, but to review his intravenous drug usage and social circumstances, which were affecting the progress of healing of the leg ulcer. The patient was living in a house with other drug users,



Figure 2. The ulcerated leg after larval therapy.



Figure 3. The wound one week post graft.



Figure 4. The wound two weeks post-graft.

making it difficult for him to stop his drug use.

MANAGEMENT

On admission the patient was started on intravenous flucloxacillin and benzylpenicillin to treat the cellulitis and tissue infection and, because the patient did not want to undergo surgery, larval therapy was commenced. BioFOAM 7x12cm (ZooBiotic Ltd, Bridgend) was applied twice over six days to facilitate debridement of the wound bed and help reduce the local bioburden (Figure 2). The larvae remove the dead tissue present and with it the bacteria responsible for wound infection.

The patient was also referred to the drug rehabilitation team to gain help and advice on his drug use; he had agreed to this when he was admitted. Initially he was commenced on methadone and this was titrated over a period of days with the drug rehabilitation team to ensure the symptoms of withdrawal were kept to a minimum. Temazepam was prescribed to help with poor sleep patterns and the night craving the patient was experiencing. Paracetamol and ibuprofen were also prescribed to help the pain caused by the leg ulcer.

Once the infection had been cleared and the wound bed debrided the wound was dressed with Medihoney (Comvita, London) and Aquacel (ConvaTec, Ickenham), which were applied with Sorbion Ag (Sorbion, Gelsenkirchen) to absorb any excess exudate and extend the dressing wear

time. These products were used together initially; the Medihoney to keep the wound bed clean and as an antimicrobial, Aquacel to absorb exudate and Sorbion Ag to reduce excess exudate that was striking through the dressing daily. Using this product, dressing changes were kept to every other day. A Profore four-layer bandage (Smith & Nephew, Hull) was also applied to reduce risk of tampering by the patient and aid venous hypertension.

The period of hospitalisation allowed the multidisciplinary team to stabilise the drug maintenance programme without the patient being tempted by outside influences, which had happened in the past. It also separated him from his poor housing conditions, which was not conducive to healing. The patient was the main carer for another disabled relative giving him little chance to rest his leg or really take good care of himself, such as eating a healthy diet or attention to personal hygiene. This also enabled the drug rehabilitation team to look for suitable support for him when he was finally able to be discharged.

After two weeks of treatment it was decided to refer the patient to the plastic surgeon for a skin graft to complete the healing more rapidly. Unless the wound was completely healed when the patient was discharged there was an increased chance of the wound deteriorating again. A skin graft would ultimately cover the area and facilitate complete healing. It was felt that discharging the patient with

a wound would not be in his best interest as he was known for failing to attend outpatient clinic appointments, meaning that the wound would be likely breakdown again.

The wound was considered suitable for a skin graft and this was undertaken with excellent results. After the skin graft the leg was left for five days untouched and dressed. When the dressings were removed, the graft had attached to 90% of the wound surface area, 10% of the wound showed no graft attachment and granulation tissue was evident (*Figure 3*). A non-adherent dressing was applied to allow healing to continue and to reduce the risk of trauma to the graft in the early stages.

Once the wound was covered completely the patient was discharged and followed up in the outpatient department where he was fitted with Jobst UlcerCARE compression hosiery (BSN Medical, Hull) to support the leg and healing tissue of the graft and remove the risk of breakdown of the wound. *Figure 4* shows the wound two weeks after the skin graft.

The patient continued to be reviewed in the community by the drug rehabilitation team. Although he was not ready for complete detoxification, the methadone substitution was continued and maintained in the community.

CONCLUSION

Identifying the cause of wounds with intravenous drug users is not always easy because it

may be difficult to gain a full history during the assessment process. In addition, there may be a concurrent mental health problem, depression and low self-esteem making communication difficult. The assessment process requires identification of other factors that need addressing if wound management is going to be successful. This requires a multidisciplinary approach looking at wound management, social circumstances, pain management and maintenance or detoxification support from drug rehabilitation teams. The patient may need intensive treatment over a short period of time to prevent deterioration but outcomes can be fast and effective.

However, the evidence base for identification and management is poor as there are few studies on best practice in wound care for drug users (Finnie and Nicholson, 2003). As the use of intravenous drugs remains a problem, clinicians should review local protocol and ensure there are best practice guidelines in place for treating this client base utilising a multidisciplinary team. **WE**

Finnie A, Nicholson P (2002) Injecting drug use and implications for the skin and wound management. *Br J Nurs (Tissue Viability Supplement)* 11(12): S8–S20

Finnie A, Nicholson P (2003) Homeless people and injecting drug users: implications for wound care. *Leg Ulcer Forum J* 17: 18–22