

## The use of VERSAJET<sup>®</sup> and VISTA to facilitate healing in a grade IV heel ulcer

### Background

Managing heel pressure ulcers wounds in elderly immobile patients with concurrent venous disease can be complex and challenging. Negative pressure wound therapy (NPWT) is used to treat the pressure ulcer in conjunction with multi layer compression to address the venous disease and is presented in this case study as a management option.

### Purpose

This case study was undertaken to assess the benefits of VISTA Negative Pressure Wound Therapy used for a 64 year old female patient with longstanding Multiple Sclerosis (diagnosed 1986) who is wheelchair dependant. The patient presented to the community wound clinic with a mixed aetiology leg ulcer on the lateral side of her right lower leg and a recurrence of a previously healed Grade IV pressure ulcer on her right heel following minor trauma of 1 year duration. Despite attending the multidisciplinary clinic and significant progress with the management of the leg ulcer the pressure ulcer continued to deteriorate and extend in size.

### Methods

The following wound investigations, referrals and treatments were undertaken. Dec 2007 wound swabs showed MRSA and e-coli in both wounds, this was treated as per advice from microbiology. Unable to undertake ankle to brachial pressure index as she was unable to tolerate the investigation in the clinic therefore non invasive waveform was requested, which was followed by duplex investigations which gave the following result; triphasic right femoral, monophasic popliteal and dorsalis pedis indicative of right Superficial Femoral Artery disease. The patient was referred to and seen by the local vascular consultant who suggested that reconstruction was unlikely to be successful and discussed amputation with the patient, however the patient was not keen and returned to the clinic for treatment. 3 layer (reduced) multilayer compression was commenced to treat the mixed aetiology leg ulcer (figure 1). Progress was seen in healing of the leg ulcer (figure 2) but no progress was made with the heel pressure ulcer and continued to deteriorate. MR imaging of the heel was requested in June 2007 and no evidence of osteomyelitis was reported, this was repeated in Oct 2007 and suggested a stress fracture but no osteomyelitis.

As a result of the above investigations after weighing up the clinical risks versus the benefits a decision was taken to debride the pressure ulcer using the VERSAJET Hydrosurgery system. VISTA NPWT was applied at -80mmHg once haemostasis was achieved at the same clinic visit. The wound was reviewed every 3 days.

### Results

Precise debridement was required for the wound as it was covered with a thick layer of necrosis and slough. VERSAJET enabled us to remove 90% of the devitalised tissue in an outpatient setting thereby alleviating the need for a visit to theatre (figure 3).

VISTA NPWT was applied within 20 minutes of the debridement (figure 4) and the patient was discharged home. Information was given to the district nurses and carers and a clinic appointment was made to review progress. After one week the wound had decreased considerably in size (figure 5). The reduction in size and the associated low levels of exudate (figure 6) facilitated the patient to be changed to conventional therapy after 10 days. The use of combination therapies proved effective despite the risk of recurrent necrosis associated with debriding wounds with limited arterial flow.

NPWT and conventional therapies were used in conjunction with three layer compression bandaging to correct the underlying venous component of the mixed disease.

### Conclusion

The use of Versajet and VISTA in combination to manage a previously recalcitrant grade IV heel pressure ulcer in a patient with mixed arteriovenous disease in conjunction with 3 layer compression to facilitate venous return concurrently may provide the impetus and ideal conditions to promote healing where previously used advanced wound care interventions alongside compression had failed.

Figure 1 – Mixed aetiology ulcer prior to application of reduced x3 layer elastic compression



Figure 2 – Mixed Aetiology Leg Ulcer improving with reduced compression



Figure 3 – Grade IV Heel ulcer



Figure 4 – Post VERSAJET Debridement 29.02.08



Figure 5 – VISTA NPWT insitu



Figure 6 – Wound at first NPWT dressing change 03.03.08



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