Electrophoretic therapy to manage complex leg ulcers

Liz Ovens, Clinical Service Lead Tissue Viability, Central North West London NHS Foundation Trust, Hillingdon Community Trust

Introduction

Despite efforts to promote tissue repair many wounds heal slowly, do not heal or deteriorate. Management of these chronic wounds is a growing problem, innovation and cost-cutting is key to current health policy and therefore clinicians should be taking advantage of emerging technologies that can improve outcomes for patients while reducing costs.

Accel-Heal is an innovative electrophoretic device that uses a patented sequence program to deliver a specific series of electric energy pulses to the skin which triggers key healing processes.

Risks of leg ulcer development increase with age and it is estimated that around two per 100 people over 80 years old have a varicous leg ulcer (NHS Cholinus, 2014). The average duration to healing for a VLU is 6-9 months (Birge and Ciga, 2003) with 60% present for >1 month, 35% present >1 year (Harrington et al, 2001) and 20% present for >5 years (Price and Harding, 1986). Guest et al (2012) suggested that 90% of VLU’s remained unhealed at 6 months and that acceptable motor (compensation bandaging) is not always successful at healing VLUs.

Factors that contribute to a VLU being a complex poorly healing wound include:

• Comorbidities such as diabetes and rheumatoid arthritis, which affects small vessels,
• Lifestyle, such as drug/alcohol abuse and smoking (Mell et al, 2009; Wigston, 2013),
• Multiple medications (Wigston et al, 2013),
• Age and non-compliance (Mottett et al, 2009),
• History of recurrent VLUs with persistent oedema,
• High levels of pain and persistent infection prevented the use of compression therapy.

Medical History

• Diabetes, hypertension,
• Rheumatoid arthritis,
• Edema and frail.

Method

The tissue viability team at Central North West London NHS Foundation Trust Hillingdon Community Health (CNWH) have used Accel-Heal on a large number of patients with complex wounds with successful outcomes.

Funding for this innovative treatment was obtained from medicines management. A case series was undertaken for these patients. Prior to commenced treatment, the clinician obtained informed consent, outlining the mode of action and advising that Accel-Heal was not designed to heal the wound within the 12-day treatment course but aimed to "kick start" the normal wound healing physiology while standard care is continued. All clinical staff were trained in the application and use of Accel-Heal Therapy. The patients presented with complex leg ulcers of varying longevity from 4 months to 3 years, which had failed to progress using standard therapies.

All patients were holistically assessed prior to treatment with Accel-Heal including recording of all relevant medical history, medication, allergies, pain, tasts and Doppler assessment, nutrition status, risk assessment and a full wound assessment including photos and wound measurements prior to commencing the therapy and at various stages throughout.

Discussion

Not only do indolent wounds cause many challenges for healthcare professionals and huge cost pressures, they cause misery, pain and reduce patients’ wellbeing. Using Accel-Heal in association with standard treatment, which when previously used proved ineffective, has been shown in these three case studies to promote significant changes in these complex wounds.

The treatment is well tolerated by patients, easy to apply and is used alongside the patient’s standard treatment.

Conclusion

Given that without using Accel-Heal these wounds were continuing in their complex state, a strong association with an improved outcome and the use of Accel-Heal seems likely.

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