Right Care, Right Time:- An evaluation using an electroceutical treatment* to determine the clinical outcomes in a large NHS Trust

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INTRODUCTION

The cost of caring for wounds and associated comorbidities in the UK has recently been estimated to be £5.32 billion annually[1] and leg ulcers alone cost £1.94 billion[2] posing a significant impact on clinical commissioning groups in the UK[3]. An innovative treatment using electroceutical treatment* for the management of hard-to-heal wounds can significantly improve outcomes for patients and reduce costs[4,5,6,7]. The treatment* is a small disposable class IIa portable medical device delivering a precise dosage of electroceutical treatment through the skin surface to amend the impaired biological function in the wound. It is a one-off 12-day treatment that does not heal the wound within the treatment period but kick-starts the wound healing physiological process.

METHOD

An evaluation was undertaken to establish the clinical outcomes for patients and healthcare experience of using an electroceutical treatment* in the community setting. The aims were to determine wound size, pain and exudate reduction in hard-to-heal wounds and demonstrate cost efficiencies within the locality following the treatment*. Inclusion criteria - patients with history of non-progressing wounds despite best practice including compression as appropriate. Exclusion criteria - patients with active cancer and pregnancy.

Treatment duration with the electroceutical device* was 12 days with standard care continuing during and post treatment. Data was collected every 2 - 4 weeks for up to 20 weeks or until complete healing. Ease of use by the clinician and patient comments were also recorded. Data was analysed by the authors.

Patient Characteristics

- 17 patients with 19 wounds were included in the evaluation. Wound aetiology included: - 16 venous leg ulcers (VLUs), 1 arterial leg ulcer and 2 post-operative wounds
- 47% patients were male
- Mean age 66 years (range 16 - 90 years)
- 75% of patients had pain with a mean pain score of 6.9 on the visual analogue score (VAS)
- Mean wound size was 12.1cm square (range 0.2cm - 78cm square)
- Mean duration of wound was 29 weeks (range 10 weeks - 7 years)
- 11% patients had heavy exudate and 64% patients had medium exudate measured by the attending clinicians according to the amount of dressing changes and strike through present

RESULTS

Wound size reduction and healing

Within the 20 week period following treatment, 84% of all wounds healed and 100% of all wounds < 1 year old prior to treatment healed. 3 wounds (VLUs) present for over 12 months did not heal but these reduced in size by a mean of 37.3%. One VLU present for 7 years prior to treatment reduced in size by 98%. For all wounds there was a mean wound size reduction of 73% with a mean wound size of 3.27cm^2 at the end of the study period. The mean healing time was 7.5 weeks and 15 wounds (94% of the healed group) healed ≤ 12 weeks (see table 1 and fig 1).

Table 1 - Wound healing at 20 weeks

Wound type	Healed	Increased	Remained same	Reduced in size
VLU (n=16)	13	-	-	3
Mixed aetiology leg ulcer (n=1)	1	-	-	-
Post-operative (Pilonidal sinus) (n=1)	1	-	-	-
Post-operative (Achilles repair site) (n=1)	1	-	-	-

Pain reduction

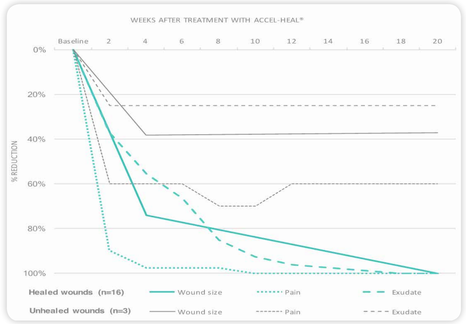
Within 2 weeks of commencing the treatment, the mean pain score was reduced to 0.9.

At 10 weeks post treatment, 18 (95%) patients' wounds had no pain and one patient had their pain score reduced from 5 to 3 on the VAS scale. At 20 weeks the mean pain score was 0.3 (see fig 1).

Reduction in exudate

Within 2 weeks of commencing treatment no patients had heavy exudate and only 32% patients had moderate exudate. At the end of the study period 16% patients had moderate exudate (see fig 1).

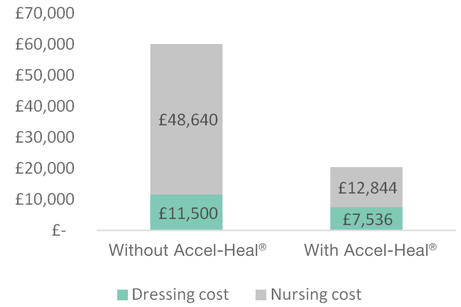
Fig 1 - Outcomes after treatment with Accel-Heal®



Economic benefits

Substantial economic benefits were identified throughout the 20 week period including reduction in dressings spend and District Nurse visits. These results (fig 2) are an estimate and are based on national average figures, they are consistent with previous findings that Accel-Heal® provides better outcomes for reduced cost[6]. Full details of the results are due for publication[8].

Fig 2 - Total average cost of evaluation cohort, dressings and nursing time



DISCUSSION

The treatment* had a significant effect on the patient group with all patients experiencing either complete healing and/or reduction in wound size, pain and exudate and decreased nursing visits. This had a positive effect on patients' quality of life and demonstrated a cost improvement for the Trust. All clinicians reported good or excellent for ease of use of the treatment*. A business case has been put forward with a view to incorporating the treatment* as part of the Leg Ulcer specialist pathway. The Tissue Viability Team propose that at the 8 week assessment on their algorithm, all wounds which have not progressed as expected within the pathway guidance, will be commenced on the treatment* and will continue to be reassessed 4 weekly.

CONCLUSION

Using electroceutical treatment* can significantly improve clinical outcomes for patients when used alongside standard therapy. Development of a pathway to be incorporated into Trusts' formularies and guidelines provides clinicians with the appropriate tool to ensure the right care is given at the right time. The incorporation of an appropriate pathway also ensures control of spend and unwanted variance in treatment.

NURSE COMMENTS

"Definitely use Accel-Heal® again. Brilliant product, I would like to use it on all my patients" - District Nurse

"I would definitely use Accel-Heal® again. This changed the patients life. Patient had 2 wounds, 1st healed within 4 weeks and 2nd within 8 weeks." (wound duration 8 months before Accel-Heal® commenced) - District Nurse

PATIENT COMMENTS

"Nobody knows the pain of a leg ulcer until they have one, I couldn't sleep, I didn't want to eat. This treatment definitely helped" - Patient DN

"The nurses were brilliant, they tried everything but nothing worked, they told me about this and I would have tried anything. I was very so impressed when I could see it start to heal" - Patient GF

References

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***Accel-Heal®**