

The use of a new two-in-one treatment (K Two Start) in a venous leg ulcer

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Delayed wound healing affects a significant number of patients within clinical practice. The cost of managing chronic wounds in the UK is estimated at £1 billion per year (White, 2008).

Factors affecting healing are numerous, including:

- ◆ Infection
- ◆ Underlying aetiology
- ◆ Age
- ◆ Poor nutritional status
- ◆ Concordance
- ◆ Wound cellular imbalance. (White, 2008)

In order to appropriately manage a patient with a wound it is imperative that the potential for healing is considered—indeed some wounds may not heal and be palliative in nature. In such cases, symptom management would be the most appropriate action, for example, care of local wound issues such as wound-related pain or exudate control.

The implications of delayed or palliative wounds in terms of the delivery of clinical services and the operational costs should be taken into account as these situations may increase staff involvement and wound product use.

The case study described below demonstrates the treatment of a patient presenting with a venous leg ulcer, the identification of the factors affecting healing and the outcome of appropriate management with a new wound care treatment (K Two® Start), in addition to the implications to practice for the nursing team.

Case study

A team of nurses working in a primary care setting identified a female 87-year-old patient who had two mixed

aetiology leg ulcers on her left leg. An ankle brachial pressure index of 0.74 was recorded. Holistic assessment was undertaken and the patient's past medical history was assessed. She had a low body mass index of 18 (borderline underweight) and otherwise there was little of note. She had been a tobacco smoker, giving up some years ago.

In the 12 months previous to the consultation, the patient had sclerotherapy in an attempt to promote wound healing. It is a technique that involves injecting a sclerosant agent into the blood vessel and can be effective in treating superficial venous reflux in patients with venous leg ulcers (Rajendran et al, 2007). Unfortunately there had been only minimum improvement since this procedure.

Despite appropriate management, the wound had recurred over a period of 48 months, remaining static in the past 12 months. Her wound had been managed with an inert wound contact layer and compression bandaging, and it had been noted that she previously had an allergic reaction to a honey-based wound care product.

The patient presented with two areas of ulceration. The smallest wound measuring 40mm in diameter healed within two weeks of the new treatment being initiated. The larger 75cm² wound was located in the internal sub-malleolar region (*Figure 1*).

The wound bed was covered with 85% granulation tissue, 5% slough and 10% epithelial tissue with macerated wound edges and some irritation to the surrounding skin. Exudate levels were high and this required three to four visits per week by the nursing team, costing a total of £7287 per year (see *Table 1*).

There was some wound malodour, but the greatest problem for the patient was wound-related pain. She required analgesia prior to wound interventions and also experienced pain intermittently between dressing changes.

Although a swab of the wound bed showed a positive result for MRSA, no systemic signs of infection were present and the patient was afebrile. Therefore this did not justify the need for the use of any antibacterial treatment. She also complained of itchiness in the area of the wound but no obvious contact dermatitis was observed. This may have been associated with the exudate drying on the skin and causing irritation.

On reflection of the patient's assessment, the nursing team did not consider that this wound was palliative in

ABSTRACT

Delayed or palliative wounds affect a high number of patients, resulting in increased costs and decreased nursing time elsewhere. In this case study, an 87-year-old female patient was treated with a new wound healing product, after one year of unsuccessful treatment. K Two Start was used in the new treatment regime. After one week, the patient no longer felt constantly in pain, and after 16 weeks, the wound had healed. The cost for the unsuccessful year of treatment (£9077) is compared to the successful trial (£1329). A total saving of £7748 was estimated by the use of the new treatment regime.

KEY WORDS

◆ Delayed wound healing ◆ Treatment cost ◆ Venous leg ulcer

Table 1. Treatment costs

Treatment	Costs
Previous year costs (treated for 1 year without success)	
♦Nursing costs 45 minute visits x 182 visits per year (including nursing hourly rate, oncosts and mileage)	£7287
♦Dressing costs Aquacel 15 x 15 + Allevyn Adhesive 17.5 x 17.5 for the first six months NA Ultra 19 x 9.5 + Sorbion 20 x 20 for the second six months	£1596
♦Bandage costs K-Soft changed at each visit 3 x TensoPress changed monthly	£193
Total cost	£9077
Total cost per week	£174
Treatment with K Two® Start	
♦Nursing costs 30 minute visits x 22 visits (including nursing hourly rate, onset costs and mileage)	£945
♦Dressing costs Urgotul® Start 11 x 11 + Urgosorb® 10 x 20 for the first five weeks Urgotul® Start 11 x 11 + Urgosorb® 10 x 10 for the following 11 weeks	£176
♦Bandage costs K Two 18-25cm at each visit	£208
Total cost	£1329
Total cost per week	£83
Cost saving	£7748

nature. They identified that she had a number of factors which may affect healing and that the condition of the wound indicated a possible imbalance within the wound bed. Previous treatments had failed and a new product was introduced at the same time. Following discussion with the patient, this new wound healing product which re-balances the cellular imbalance was commenced (K Two® Start), comprising a wound contact layer (Urgotul® Start) and a two layer compression bandage system (K Two), designed to promote faster healing in venous leg ulcers.

Urgotul® Start is a primary wound contact layer combining TLC Technology and NOSF (Nano-OligoSaccharide Factor) that promote faster healing by controlling the action of Matrix Metallo Proteinases (Coulomb et al, 2008), therefore improving the wound environment and facilitating a ‘kick start’ effect to encourage healing. The efficacy of this product has been demonstrated by a randomized controlled trial (RCT) (Schmutz et al, 2008) of 117 patients presenting with venous leg ulcers, and showing a 54.4% reduction in wound surface area after 12 weeks versus 13% for the comparative product.

A large scale observational study has also been conducted

in over 2000 patients presenting with venous leg ulcers, pressure ulcers, diabetic foot ulcers. Here, the test treatment demonstrated a 75% reduction in wound surface area after six weeks of treatment (Munter, 2008).

Using this new wound therapy met the needs of the local wound bed and the underlying aetiology of the ulcer, with the aim of ensuring holistic management.

Results

The patient was monitored during an eight week period by the team. Standard case report forms, which reflected good clinical practice, planimetric wound measurement and digital images were all recorded weekly.

At the end of the initial week of treatment, the pain previously experienced at dressing changes was absent, indeed from this point onwards dressing changes remained painless for the patient and atraumatic to the wound and surrounding skin. Exudate levels had decreased to moderate and the surrounding skin was healthy.

By week five, the wound had progressed to 100% granulation tissue, with healthy wound edges and surrounding skin and low levels of exudate. There was no malodour and she continued to experience no pain either at dressing change or in between.

By week eight the wound had reduced to an overall size of 6cm², over 4 small wounds (Figure 2).

The nursing team found the test dressing easy to apply and remove throughout the case study, with very positive outcomes for the patient.

Complete healing was achieved by week 16 (Figure 3) with healthy, robust epithelial closure. The patient moved to wearing class 2 hosiery to maintain her healed condition.

Additionally from the positive clinical results, the treatment appeared to be highly cost-effective compared to the treatment used the year before without any success. This comparison (Table 1) compares the cost of the test treatment for the year before the new treatment was initiated (52 weeks), versus a 16 week period with K Two® Start which enabled to heal the wound. Although this is a different time scale, the cost per week of treatment shows that the treatment cost has considerably reduced from £174 to £83.

The cost of one visit included the cost of an hourly rate (£15.24) (depending on the time spent to apply the treatment), with oncosts (£20 per visit) and mileage (£4.80 per visit). The total cost was then multiplied by the number of visits carried out by the nurses.

Dressings’ costs were taken from the Drug Tariff, as of June 2009.

Discussion

An imbalance within the wound bed is a factor affecting healing. Identification of risk factors in conjunction with a holistic assessment and observation of the wound evolution will aid nursing staff to appropriately manage such wounds. This patient could have been managed long term, as a pal-

liative wound case, however, the team identified that the potential for an imbalance could have been the cause. Their intervention has resulted in a successful outcome for the patient, at an age where quality of life is important.

Reflection on patient care and nursing interventions is an integral aspect of holistic care and this case highlights the importance of this. Exploring new interventions, such as K Two® Start, can ensure that all wound management options available have been used, before accepting that a wound is palliative with all that means for the patient and the impact of this operationally and financially for the service.

Wound-related pain can be debilitating, affecting all aspects of a patient's life. This case study demonstrates the positive results found within the RCT (Schmutz et al, 2008). In addition, the experiences of the clinicians in the observational study (Munter, 2008) were positive, in that the product was not traumatic to the wound and surrounding skin on removal, and pain free for the patient.

The delivery of patient care is costly in terms of nursing time. With the greater workload of primary care nurses being wound related it is important that wound care products can contribute to the operational delivery of the service and not increase service costs. In the present study, nursing visits were decreased from an average of four per week to two per week with the associated time and financial saving.

This case study has the limitation of including only one patient which must be noted as it means the results cannot necessarily be applied to a wider population. However, the results are in line with previous results obtained from trials such as RCTs or observational studies.

Conclusion

This case study shares the experiences of one primary care nursing team and a patient with a long-standing leg ulcer; allowing an insight into the use of K Two® Start challenging the outcomes of previously published work all be it at an anecdotal level. Identification of factors affecting healing, considering these in relation to their complex patient and implementing a new treatment regime resulted in a positive outcome. The test dressing is a new cost-effective therapeutic intervention that provides an additional wound management option for clinicians faced with venous leg ulcers.

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Figure 1. Wound before use of K Two® Start



Figure 2. Wound after eight weeks of treatment



Figure 3. Complete healing achieved after 16 weeks

Key points

- ◆ Delayed wound healing can affect a high proportion of clinical patients.
- ◆ The implications of delayed wound healing, for example costs and time management, should always be considered.
- ◆ Identification of healing risk factors, holistic assessment and constant updates on the wound's progression will help nurses adequately manage wounds.
- ◆ Cost-effective, yet successful treatments should be considered.