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Caring for a painful venous leg ulcer

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Hanne Vogensen presents a case study which outlines the care of a Danish leg ulcer patient.

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This case study describes the management of a 54-year-old Danish man with chronic, recurring venous leg ulceration. John's ulcer had healed and recurred during the previous five years but was progressively getting worse. The gradual deterioration of his ulcer had greatly affected John's health related quality of life due to pain, leakage and reoccurring infections. The constant wound pain dominated his life and greatly restricted his mobility. As a result he had been unable to work during the previous six months and his social life was non-existent. This case study focuses on the care that John received from May to July 2005, which resulted in rapid wound pain reduction and wound closure.

Introduction

John is married with two teenage children and works as a flight mechanic at the local airport, a job which he enjoys and has done for many years. He is a tall, thin man with long legs who enjoyed sports of all kinds including tennis and skiing. John was a badminton instructor who hadn't been able to play or teach since the occurrence of his latest episode of leg ulceration eight months ago. He had no significant medical history (although his brother has a similar history of venous ulceration) but appeared depressed and angry during his initial visit to Copenhagen Wound Healing Centre. John had become increasingly dissatisfied with the previous care received and had asked his GP to refer him to the wound clinic at Bispebjerg Hospital.

His first leg ulcer had occurred five years previously as a result of trauma induced by friction from a tightly fitting ski boot. The initial wound was superficial but failed to heal and rapidly developed into a small leg ulcer which has alternated between healing and breaking down. John's leg ulcers have been prone to recurrent infections which have made them more painful. Although mobile, John walked into the clinic on his toes reluctant to fully weight bare and was unable to drive due to his ulcer pain. He had not worked for six months and had become increasingly reliant on his wife. He was desperately worried that he may lose his job as this current episode of ulceration had been the worst and the most painful and did not seem to be responding to treatment. His main motivation for seeking referral to the Wound Healing Centre was his uncontrolled pain so that he could return to work. John had no expectations that his ulcer could actually be healed. He was an active man who had become very frustrated as his social life and enjoyment of sports was severely restricted. In the last few months he had become virtually house-bound, very depressed and found it difficult to accept his current condition. In the past he had been prescribed compression hosiery but it was evident that these had not been fitted properly because of skin damage.

Wound assessment

The ulcer was in the gaiter area above the lateral malleoli. On initial inspection, it was superficial, circular in shape, relatively small and highly exudating. It had a surface area of 10.5cm2 and measured 4cm at it longest point by 3cm at its widest. John's ulcer was generally shallow and covered in red granulation tissue but was deeper in the lower, outer quadrant. The deeper area was approximately 5mm deep and covered in adherent yellow slough (Figure 1). Although the condition of the surrounding skin was good there was evidence of erythema and dependant oedema.

A Doppler assessment was performed which indicated that John was suffering from venous insufficiency (ABPI reading 1.16) and that it was safe to apply compression therapy (Marston & Vowden, 2002).

John's full blood count was within normal limits. He had no history of diabetes and his systemic blood pressure was 150/90mm Hg. A wound swab showed no significant growth. A Duplex ultrasound was performed due to a suspected deep vein thrombosis and provided evidence of venous incompetence at the sapheno-popliteal junction. His superficial veins were unaffected.

Prior to attending the Wound Healing Centre John's ulcer had been dressed with vaseline gauze and a foam dressing (Mepilex). This was changed to a silver, antimicrobial dressing (Aquacel Ag) which had not significantly reduced the

- end of page 33 -

Figure 1: Leg Ulcer at initial assessment.

wound exudate over a three-week period. John's wife had to change the bandages every day due to leakage which was very time consuming and unpleasant. The use of silver dressings unfortunately increased the pain from around the ulcer and disturbed John's sleep so that he was tired and irritable. At this point, the primary contact dressing was changed to Biatain foam dressing in an attempt to reduce the ulcer pain and contain the copious exudate. The wound was cleaned with warm tap water and Coloplast Skin Barrier was applied to the skin surrounding the ulcer to prevent maceration and excoriation. An emollient cream, (Locobase 5 per cent lactic acid and 20 per cent propylene glycol in a lipophilic cream base) was carefully massaged into the intact peri-wound skin to re-hydrate and soften it.

The Biatain dressing was used in conjunction with a long stretch compression bandaging system Dauerbind K (Lohmann & Rauscher). This regime effectively reduced the oedema and the exudate but had no significant impact on the wound pain.

Wound pain

John experienced severe, unrelenting persistent ulcer pain interrupted by acute episodes of intense pain. He described the persistent pain as 'smouldering' and the more acute pain as 'smarting', prickling' and 'shooting' which suggests that this more sudden pain was likely to be neuropathic in origin rather than just nocioceptive pain (WUWHS, 2004; Enoch & Price, 2004). On initial assessment John vividly described his pain:

"I've had shooting pains so strong that I'd almost describe it as having a knife or an axe in the ulcer. I've had pains that were so intense that I've cried out loud and startled my family. I've had pains like cramps that have gone through the whole of the leg."

John described the intensity of his ulcer pain as fluctuating over 24 hours, sometimes worse than others but always present. He described the pain as being concentrated in and around his leg ulcer and then radiating up to his knee. He identified a variety of factors that he felt changed his persistent ulcer pain into intense pain including dressing

changes and walking. The unpredictability of the ulcer pain was the worst aspect of his ulcer that he had to cope with and frequently got him down.

The pain regularly disturbed his sleep at night and drained his energy:

"I have pains that make it hard to sleep at night whether the leg was lying flat or not . . . even the quilt made it [the ulcer] hurt so badly that I couldn't sleep at night."

He also experienced cramps at night which caused difficulty getting comfortable in bed and falling asleep. Once asleep the cramps could be so severe that they woke him up.

At initial assessment John assessed the severity of the pain as 79 out of 100 using a visual analogue scale. He had been prescribed a variety of analgesics in the past, none of which he considered to be particularly effective. He sometimes got confused as to when to take them. On initial assessment he was prescribed Morphine Slow Release (200mg) which he sometimes took in the evening before going to bed and in the day he sometimes used Paracetomol 1g up to three times a day alternating with 50mgs of Dolol Dicloner (Tramadol, Diclofenal). He was, however, generally reluctant to take his prescribed analgesia as he found that it made him dizzy, drowsy and had little effect on the pain. John was reluctant to take oral analgesia due to concerns about side effects, dependency, confusion about administration and dosages which has also been reported in studies (Lansbury, 2000). He felt that his prescribed analgesia only had a limited effect by taking the edge off the pain and therefore only took it as a last resort.

John found that the most effective way to reduce the pain was to exercise and to walk around the house, this meant that he never stayed still and fidgeted all the time. Ironically, although walking sometimes helped to relieve the ulcer pain, on other occasions it would result in severe shooting pains that he could barely tolerate. He had developed the habit of stretching his affected leg out and rubbing it in an attempt to ease the discomfort.

Re-assessment

After three weeks treatment with Biatain foam dressing and compression therapy, a new product became available; Biatain®-Ibu (Manufactured by Coloplast A/S). Biatain®-Ibu consists of a soft, hydrophilic, non-adhesive polyurethane foam containing ibuprofen (ibuprofen concentration: 0.5mg/cm2) as an integral part of the matrix. The foam is bonded to a semi-permeable polyurethane film. Ibuprofen is released to the wound in the presence of wound exudate and studies show that the dressing provides continuous pain relieving effect (Jørgensen et al., 2006). By this time, the Biatain foam dressing used previously had helped to contain the wound exudate and the erythema surrounding the ulcer had resolved however, the ulcer pain remained. The long stretch compression bandages had helped to reduce John's

- end of page 34 -

oedema and re-shape his leg. John was very keen to try this new dressing and was amazed to report that he felt the pain begin to subside within a few hours of application of the first Biatain®-Ibu dressing. The Biatain®-Ibu dressing was re-applied in the mornings and by midday John reported that the pain had completely gone. He felt that the dressing helped him immediately to sleep at night 'I've actually slept right through every singe night' (since using Biatain®-Ibu dressing). By the second dressing change his mood had brightened considerably and at the end of his first week of treatment with Biatain®-Ibu he was fully weight baring, walking normally and decided to return to work. After two weeks of treatment with Biatain®-Ibu, John's rating of his VAS score had dramatically reduced from 79 to 6 and he felt confident enough to start playing badminton and tennis and had resumed driving. John's pain reduced dramatically during the treatment with Biatain®-Ibu, and his mobility and energy levels improved so that he felt more able to tackle jobs around the house and to get more involved in family life.

The Biatain®-Ibu dressing was easily removed from the ulcer and the exudate was contained within it (Figure 2). John's leg was carefully washed in warm water and Locobase cream was massaged into the dry surrounding skin. An immediate improvement in the wound bed was noted, the sloughy areas appeared cleaner and the granulation tissue had improved. The Biatain®-Ibu dressing was changed together with the compression bandages. John was

really pleased with his ulcer's progress and was more cheerful than he had been in months. Over the next two weeks, the Biatain®-Ibu dressing was changed every 2-3 days, each time the wound appeared to be improving as the exudate level had reduced further. By now the ulcer measured approximately 3cm¥2cm at this time and had a surface area of 8.9cm2. The ulcer bed was less sloughy than previously (Figure 3).

Over the next month, healing progressed rapidly and uneventfully as John's mobility increased. To his delight the ulcer finally healed on July 27th and has remained healed ever since. John is comfortably wearing a Sigvaris Class 111 compression stocking which was properly measured and fitted. At a recent follow-up appointment in October 2005, his hosiery was satisfactory and his leg shape was good with no evidence of oedema.

Figure 2: Removal of Biatain Ibu dressing.

Figure 3:The ulcer bed is less sloughy than before.

Discussion

John's experience is typical of many leg ulcer patients and demonstrates the negative effect on HRQoL that this client group face due to complex, inter-related factors including pain, odour, leakage, skin problems, restricted mobility, lack of sleep and increased frequency of dressings and bandages (Krasner, 1998; Hyde et al.,1999; Chase et al., 2000). For those with non-healing ulcers this may lead to loss of independence, lack of energy, mood changes and social isolation (Ebbeskog & Ekman, 2001) which for many people like John may result in depression, loss of self-esteem, anger and high levels of anxiety (Phillips, 1994; Persoon et al., 2004).

Wound pain is consistently reported by patients as the most prominent feature of chronic venous leg ulcers (CVLU) (Walshe, 1995; Krasner, 1998; Hyde et al., 1999; Chase et al., 2000). The prevalence of pain in CVLU has been reported to be as high as 64 per cent (Hofman et al.,1997). This case study shows that

- end of page 36 -

venous leg ulcer pain can be persistent, even at rest (WHWHS, 2004), or may be specifically related to, and exacerbated by wound dressing related procedures (EWMA, 2002).

Conclusion

This case study has described the experience of living with a painful venous leg ulcer and how improvements in HRQoL occurred when treated with a pain reducing dressing Biatain®-Ibu. This patient's experience was typical of

other leg ulcer suffers and shows that the combination of fluctuating persistent and temporary pain during a 24 hour period dominates the lives of this client group and previously has been difficult to treat. John's case highlights the importance of comprehensive pain assessment in order to identify the characteristics of wound pain such as duration, intensity and type which should be an integral part of any holistic wound assessment. Local, topical treatment of the patient's wound pain was without side effects, provided rapid relief and was easy to apply and remove. As John's pain lessened he felt more relaxed and positive that his ulcer would eventually heal. The combination of his improved quality of life, motivation and mobility are likely to have contributed to the eventual healing of his wound.

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- end of page 37 -