


A clinical evaluation to assess discomfort and periwound maceration with the use of a superabsorbent dressing* in venous leg ulcers under compression

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TOPIC

The gold standard of care for patients with venous stasis ulcers is compression therapy. Challenges in treatment often include patient discomfort, dressing absorption and periwound maceration. An atraumatic silicone dressing is available to manage removal associated pain but absorption and maceration continue to cause problems. Some absorbent products yield wound fluid under pressure creating discomfort, physical damage and periwound maceration.

PURPOSE

Most venous ulcers were highly exudative and treated twice a week. Discomfort and periwound maceration was the cause of this expensive and inconvenient visit frequency.

OBJECTIVE

We evaluated a superabsorbent polymer containing product that has a unique wound contact layer, with funnel shaped microchannels with the wider mouth of the funnel shaped aperture facing the wound.

METHODOLOGY

The new superabsorbent dressing* was applied to ten patients with venous stasis ulcers over a minimum period of four weeks. Each patient was evaluated once a week and assessed for periwound maceration, discomfort over the previous week and during dressing removal. Removal associated wound pain was monitored using a numeric scale. Periwound maceration was studied using the peri-ulcer skin assessment scale (PUSAS), Figure 1. Sharp debridement was performed as needed, wounds were measured, photographed and compression wraps were applied.

All patients had a history of venous insufficiency and were managed with compression wraps in addition to the superabsorbent dressing.

CASE 1:

66-year-old male with a long standing history of venous insufficiency, Type II diabetes, obesity, hypertension, asthma, and cardiac disease, status post coronary artery bypass graph surgery. The ulcer on the left lower extremity had been present for over 3 months. Compression wraps and dressings were changed twice a week due to excessive drainage. He rated his pain a 3 upon dressing removal. On 8/17/10 the wound measured 3.2 cm x 2.0 cm x 0.1 cm. The superabsorbent dressing managed the exudate well, resulting in no periwound maceration using the peri-ulcer skin assessment scale (PUSAS). He reported no dressing removal associated wound pain. His visits were decreased to weekly and his wound completely closed on 10/4/10.

CASE 2

53-year-old male with multiple venous leg ulcers is morbidly obese with Type II diabetes and hypertension. He presented to the outpatient Wound Center on 2/1/11 with bilateral chronic venous stasis ulcers to the lower extremities for the past 9 months. He rated his wound pain to the left lower leg a 7 on the pain scale used. His wound measured 15 cm x 22 cm x 0.3 cm. For the first 2 weeks he returned twice a week due to slippage of the compression wrap caused by the decrease of edema. After the 3rd week of treatment he returned on a weekly basis and reported no removal associated wound pain or periwound maceration. His wound was completely closed on 3/21/11.

CASE 3

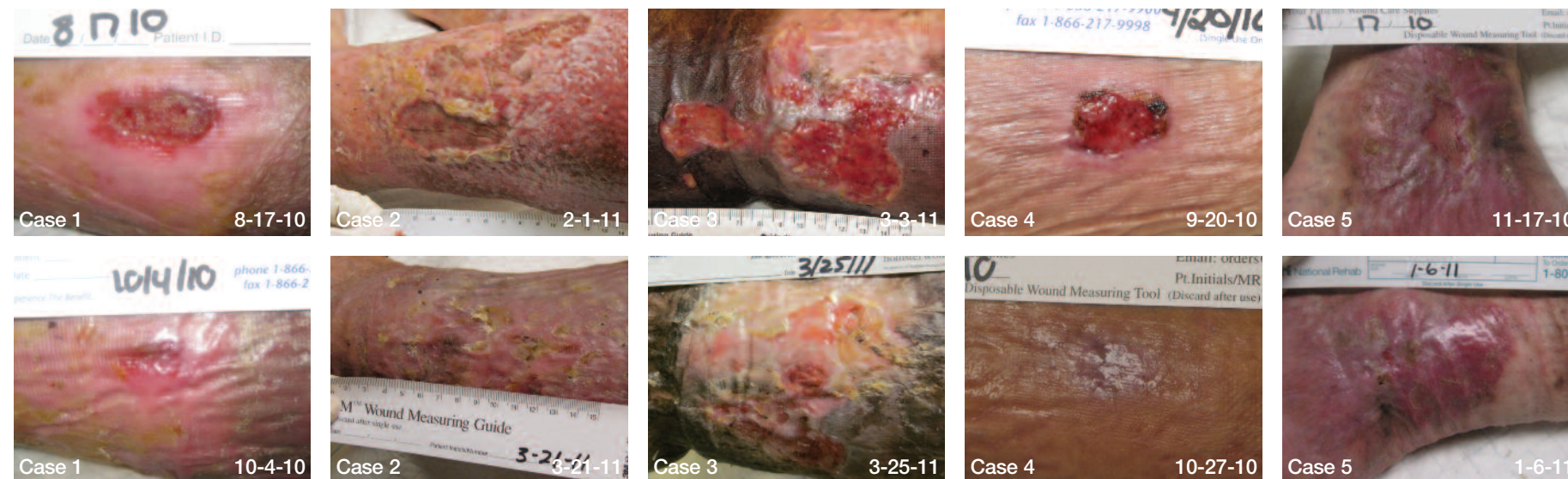
64-year-old male with chronic venous insufficiency, lymphedema, hypertension, morbid obesity and hypothyroidism. He presented with 2 full thickness reoccurring venous ulcers to the left lower leg. He was self-treating at home after being discharged from the lymphedema clinic due to noncompliance. Proximal leg wound measured 4.0 cm x 4.8 cm x 0.2 cm. Distal leg wound measured 5.0 cm x 3.8 cm x 0.2 cm. He complied and returned weekly with significant improvement, no maceration and no complaints of wound pain associated with dressing removal. The wound closure process continued with the proximal wound measuring 4.0 cm x 3.5 cm x 0.1 cm and the distal leg wound to 3.0 cm x 1.0 cm x 0.1 cm.

CASE 4

52-year-old mentally challenged female with a history of chronic venous hypertension to the right lower extremity along with chronic venous stasis ulcer. She has a history of frequent cellulitis. Wound measured 2.0 cm x 1.5 cm x 0.1 cm. Due to moderate leg edema with 2+ pitting edema she was seen to have large amounts of exudate. The superabsorbent dressing with the 4 layer compression wrap, changed weekly managed her wound to a high degree of satisfaction. She expressed no facial expression of pain during removal of dressings and no periwound maceration was noted. The wound was completely closed on 10/27/10.

CASE 5

41-year-old male with a past medical history of venous insufficiency, deep venous thrombosis and pulmonary embolism. He was initially seen on 10/14/10 for a venous stasis ulcer to the right lower extremity that he had for the past 12 months. He rated his pain a 7 on the pain scale and had moderate amount of serosanguineous drainage. He was prescribed an antibiotic, placed in an antimicrobial dressing and short stretch wraps. On 11/17/10 his wound measured 2.5 cm x 1.5 cm x 0.2 cm and he rated his pain a 4. With each visit he rated his pain a zero upon removal of the dressing and there was no periwound maceration. The wound completely close 1 week later.



CASE #6

Female, 89 year old. history of diabetes, HTN, PVD and hyperlipidema. Wound size is 2.5 cm x 2.0 cm 0.1 cm, left lower leg ulcer. Moderate serosanguinous drainage, no periwound maceration and no reporting of pain during dressing use, nor at dressing removal. Wound has been present for over 10 years. During the 4-week trial, decreased slightly in size but did not close, to 2.5 cm X 1.0 cm X 0.1 cm.

CASE #7

Female 68 year old. History of chronic right lower leg ulcer, cellulitis, acute renal failure, HTN, history of MRSA in the wound. Wound size: 6.5 cm x 4.3 cm x 0.1 cm. Right lower leg. Moderate serosanguinous drainage. Over the 4 weeks of wound management with the superabsorbent dressing, the wound decreased in size, to 0.9 cm x 0.4 cm x 0.1 cm. No periwound maceration was noted nor any pain with dressing removal.

CASE #8

Male 74 year old. History of chronic left leg wounds, PVD status post percutaneous transluminal angioplasty, Normocytic normochromic anemia and hypotension. Patient presented with 2 wounds close together on left lateral leg, both sized at 1.0 cm x 1.0 cm x 0.1 cm, with moderate serosanguinous drainage. No periwound maceration or wound pain was noted during dressing use, wounds decreased by half.

CASE #9

58 year old male. history of cellulitis to the left leg with venous insufficiency, Type I diabetes, obesity, HTN, cirrhosis of the liver. On presentation, the wound size was 4.0 cm x 1.7 cm x 0.1 cm. Heavy serosanguinous drainage was observed. Although the wound increased in size, there was no periwound maceration and no pain reported during dressing use, nor during dressing removal.

CASE #10

56 year old Male with a history of HTN, obesity and diabetes. Wound size at presentation was 2.5 cm x 2.0 cm x 0.1 cm on left lateral lower leg with moderate serosanguinous drainage. No periwound maceration or discomfort was reported with dressing use and the wound closed by the end of the study.

OUTCOME

The new superabsorbent dressing* was effective in the management of removal associated discomfort and periwound maceration. Of the ten patients assessed over a minimum of four weeks, there was no reportable periwound maceration noted and no patient reported discomfort during dressing wear or removal. The new superabsorbent dressing* did not adhere to the wound and the wound size reduction was clinically significant. The presence of the unidirectional "funnel shaped" microchannels in the contact layer led to the observed clinical results.

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