

CONCLUSIONS

The composition of these case studies can be an educational tool for all healthcare providers. They reiterate the paramount importance that proper skin hydration is a foundation of any Wound, Ostomy, Continence Clinic. The following conclusions have been made based on our experience:

1. In the case of Mr. R-B, clinicians need to go back to the fundamentals of the nursing process when healing does not occur within a proper time frame. During every intervention, clinicians need to assess and re-assess the plan of care and make appropriate revisions. Obviously in Mr. R-B's case, the VNA did not address skin hydration or venous disease resulting in a 3+ year treatment with expenses that was resolved in 6 weeks once basic skin care principles and compression therapy were implemented.
2. Education of clients, caregivers, and clinicians on basic skin care and hydration is paramount for prevention of infections, cellulitis, ulcers, and/or amputations. In Mr. E-K's case, once he and his primary physician were educated about skin care principles no further episodes of cellulitis have occurred.
3. Education of clients, caregivers, and clinicians on selection, use and application of skin lubricants is important to achieve optimal results. In Mr. A-A's case, the education and compliance of the VNA and himself was essential to improving the skin integrity and avoiding fungal infection.
4. Assessment of an area that is layered with dry, flaky, skin, crusts, and/or callous formations cannot be performed until the formations are removed and the area in question can be viewed completely. This should be done with great care to avoid trauma and damage to the living tissue. Our clinic utilizes Elta® Creme to facilitate the removal of the dead tissue quickly, inexpensively, and without causing trauma.

Table 1: Clinical Benefits of Elta® Creme

- Lubricates and softens dry, cracked skin.
- Contains no preservatives or fragrances that could cause sensitivity reactions thereby reducing the risk of allergic and/or sensitivity reaction.
- Provides and maintains supple and smooth skin.
- Acts as a protective barrier for peri-wound area to prevent tissue maceration and/or irritation.
- Facilitates mechanical removal of callous formation, scabs, dry, and flaky skin without causing trauma or irritation of the tissue.

REFERENCES

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4. Kligman AM. Regression method for assessing the efficacy of moisturizers. *Cosmet Toiletries* 1978;93(4):27-35.
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6. Pattison P. Multiple case studies: Multifaceted benefits of using concentrated melting moisturizer creme on clients at a wound clinic. Presented at Wound Ostomy Continence Nurse Meeting June 2003.
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Proper Skin Hydration Requires Assessment, Re-Assessment, and Education

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ABSTRACT

The 1992 AHCPR Clinical Practice Guideline on Pressure Ulcers in Adults: Prediction and Prevention indicates reduced skin hydration results in a less pliable skin, which makes it more susceptible to cracking and fissuring of the stratum corneum¹. The guideline also indicates several studies have shown both the clinical picture of dry skin and measures of stratum corneum hydration generally improve with the application of various topical moisturizing agents²⁻⁴. Dry and flaky skin is associated with scratching which can lead to a break in the integrity of the skin. In diabetes, venous, and arterial diseases, a compromised integrity can develop into ulcerations, infections, cellulitis and/or potential amputations⁵. Based on the AHCPR principles mentioned above, the standard protocol at the Wound, Ostomy, Continence Clinic at Caritas Holy Family Hospital and Medical Center, is to incorporate the basic skin care principles in every intervention.

Frequently patients present at the clinic for evaluation of pressure ulcers, burns, arterial and venous ulcers, and non-healing wounds with obvious neglect to skin hydration. An exceedingly high number of clients and their caregivers have not had any education on skin care. To complicate the problem, assessment of the wound and surrounding tissues cannot be performed until the skin can be properly viewed for complete evaluation.

Previously, different moisturizers were evaluated for clinical and financial benefits⁶. As a result, the clinic exclusively uses a concentrated, melting moisturizer ointment (Elta® Creme, Swiss-American Products Inc, Dallas, TX) because of the benefits listed in Table 1 to promote skin integrity^{6, 7}.

PURPOSE

The importance of assessment, re-assessment, and education of proper skin hydration as a foundation of a Wound, Ostomy, and Continence Clinic is depicted through multiple case presentations.

This case study poster was created as an educational tool for all healthcare providers.

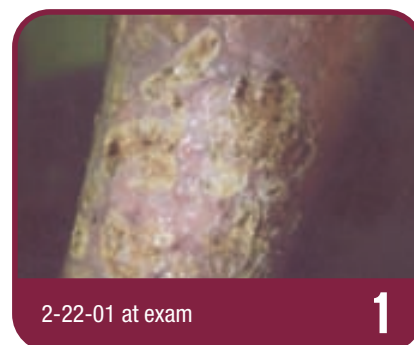
RESULTS

Case 1

Case #1: Mr. R-B, a 57yo Caucasian was referred to our wound clinic by VNA after managing his case for more than three years. Mr. R-B's past medical history is significant for cerebral palsy affecting his right side; a leg brace is worn on that side. He does not smoke or have diabetes. He commutes by bus to his job and sits for extended periods of time at a computer terminal with his legs in a dependent position. In December 1997, he was originally admitted to an area hospital for cellulitis with significant soft tissue infection of the LLE. For three years his treatment consisted of cleansing with normal saline and applying polysporin powder and an enzymatic debriding agent (Santyl, Smith and Nephew, Largo, FL) to the ulcers with a dry sterile dressing and Kerlix wrap. He was discharged home with VNA visits daily for one year. The next two years he had self-pay visits three times a week (\$210/week).

Due to the chronic ulceration without improvement, the initial visit to our clinic included a vascular evaluation. On 02-22-01, inspection in the clinic revealed both extremities were warm to the touch. The popliteal, posttibial, and pulses were palpable and symmetrical. The RLE was normal in appearance with no visual breaks in the skin. The LLE from the knee to the ankle had extensive, yellow crust formations and a musty odor. The skin under the crust could not be viewed. The foot and ankle showed 2+ pitting edema. Hyperpigmentation and erythema was evident on visual examination (*Figure 1*).

Removal of the crust formations was performed to allow proper evaluation of the LLE. Elta® Creme was applied to the LLE and allowed to absorb and soften the plaques for 2-3 minutes. The plaques were gently rubbed and removed with a gloved hand. This process was repeated during the next 30 minutes until all the plaques were removed without tissue trauma (*Figure 2*). Once the LLE could be fully viewed, no ulcerations were noted. Because of the musty odor and the weeping clear, serous fluid, Mr. R-B was prescribed daily miconazole nitrate 2% cream (Elta® Micavase™) for the LLE. Since compression therapy had never been prescribed



2-22-01 at exam

1



2-22-01 after multiple Elta® Creme applications

2



3-08-01 after Elta® Micavase™ and light compression

3



4-05-01 complete healing after Elta® Creme and compression

4

for Mr. R-B, he was fitted in the clinic with size-E Tubigrip light compression hose (ConvaTec, Princeton, NJ). As a preventative measure, Elta® Creme was provided for the intact RLE to keep the skin lubricated and supple.

Two weeks later, the LLE showed a marked reduction in edema, with no erythema, odor, drainage, or signs of cellulitis (*Figure 3*). After re-assessment, Elta® Micavase™ was discontinued. Mr. R-B was instructed to apply Elta® Creme to both extremities after bathing. Prescriptions were issued for light compression hose and a butler for hose application due to his limited hand strength from CP.

Four weeks later, the LLE was completely healed with no recurrence of crust formations or ulcers. The skin was supple and pliable (*Figure 4*). As of May 2004, there have been no further problems.

RESULTS

Case 2

Case #2: An 80yo Caucasian, Mr. E-K, was referred to the clinic due to recurring episodes of cellulitis. His primary physician had attended one of the Wound Clinic's lectures regarding assessment, education, and proper skin hydration and felt Mr. E-K could benefit from a vascular/skin evaluation and education. Mr. E-K has a history of gout, hypertension, hypothyroidism, and a CVA 15 years ago. He does not smoke or drink alcohol. He has no history of diabetes.

Mr. E-K presented on 04-10-02 at the clinic with a long-standing history of bilateral venous stasis disease and cellulitis of the LLE. He was on a 10-day course of keflex 500mg qid. His pedal and tibial pulses by Doppler were good and ABI was within normal limits. Both extremities had 2+ pitting edema and hyperpigmentation.

The LLE had thick yellow crusts, which impeded visual examination (*Figure 1*). Elta® Creme was applied to the crusted areas, allowed to penetrate for 3 minutes and then gentle mechanical removal was performed (*Figure 2*). The crusts peeled away easily without trauma to the underlying tissue. Once the crusts were removed, no ulcers were present, however, there was erythema from the ankles to the mid calf. Due to weepy skin and musty odor, Mr. E-K. was treated with Elta® Micavase™ for the LLE and Elta® Creme for the RLE. Mr. E-K was fitted with size-E Tubigrip light compression hose for the RLE and given a prescription to be measured for 10-30mmhg compression hose for the LLE.

RESULTS CONTINUED

Case 2

One week later, both extremities showed marked improvement. The skin was supple and pliable with no further crust formation. The Elta® Micavase™ was discontinued and replaced with Elta® Creme. Edema resolved through use of proper elevation and compression

hose therapy (*Figure 3*). Mr. E-K was discharged with instructions for daily skin lubrication with Elta® Creme, compression therapy, and proper extremity elevation. No further episodes of cellulitis have occurred.



4-10-02 at exam

1



4-10-02 after Elta® Creme application

2



4-17-02 after Elta® Micavase™ and compression

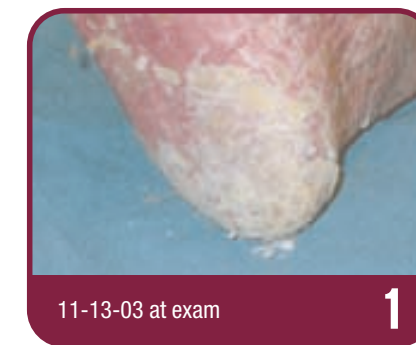
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RESULTS

Case 3

Case #3: On 10-23-03, Mr. A-A, an 88yo Caucasian, was referred to the clinic for evaluation and management of an ulcer on his left, lateral calf area. Conventional wound therapy was initiated entailing vascular/Doppler assessment, skin hydration with Elta® Creme, elevation and compression therapy for edema reduction and wound therapy. A punch biopsy was performed revealing small vessel vasculitis. Rheumatology was consulted and prednisone therapy was initiated. The VNA managed the wound dressings, skin hydration, and compression therapy between clinic visits.

Mr. A-A returned to the clinic three weeks later on 11-13-03. A musty odor was noticed before undressing the ulcer. Upon removal of his shoes and socks, large areas of white plaques on the soles and heels of both feet were discovered causing the musty odor. Dry, scaly areas with callous and layers of dead skin build-up were noted on both lower extremities (*Figures 1 & 2*). Elta® Creme was applied to the extremities except the ulcer bed. The moisturizer was allowed to penetrate into the crusts, plaques and callouses for 3 minutes. Mechanical removal of the dead tissue was performed without trauma to the underlying tissue (*Figure 3*). Due to the musty odor, Mr. A-A was ordered Elta® Trivase™ for two weeks. Educational instructions were sent to the VNA on the rationale of skin hydration and proper application and use of moisturizers.



11-13-03 at exam

1



11-13-03 arterial ulcer at exam

2



11-13-03 after Elta® Creme

3



11-27-03 after Elta® Trivase™

4

Mr. A-A returned to the clinic two weeks later with improved skin hydration and no noticeable odor. Elta® Trivase™ was discontinued and Elta® Creme was reinstated for maintenance of skin hydration (*Figure 4*).