

Treatment of Wagner Grade 2 Ulceration with CurX and FiltreX Treatment System

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Presentation

Mr C was a 72 year old man with cardiovascular disease and well-controlled diabetes mellitus. He was married with 3 adult children, did not smoke, drank alcohol socially, and had a family history of various endocrine disorders. He presented to our clinic with an ulcer that had been present for 6 months. The ulcer measured 3.2cm x 1.9cm x 0.2 cm and was staged as a Wagner grade 2.

WAGNER CLASSIFICATION OF DIABETIC FOOT ULCERS		
GRADE 0	Intact skin but foot at risk	patient education, foot wear
GRADE 1	superficial ulceration, not infected	External pressure relief: TCC, Prefabricated pneumatic braces, walking brace
GRADE 2	deep ulceration with exposed tendons, joints (superficial infection)	surgical debridement and wound care
GRADE 3	deep ulceration with exposed bone with deep infection	surgical debridement, antibiotics, wound care
GRADE 4	partial gangrene	vascular evaluation, amputation
GRADE 5	complete gangrene	amputation

Medical history

Mr C's medical history included diabetes mellitus, cardiovascular disease with LAD stent placement, hypertension, and hyperlipidemia. He denied previous ulcerations and attributed his ulcer to "a bug bite." Past treatment of his wound had included betadine, silvadene, and hydrogel to the wound bed. At time of presentation, he was applying silvadene every other day with a dry, sterile dressing, but wound measurements indicated poor healing.

His medications were metformin, clopidogrel, metoprolol, low dose aspirin, and simvastatin with allergies to ACE inhibitors, penicillin, and sulfa drugs.

Wound profile

Mr C presented for assessment of his diabetic ulcers and was found to have an ulcer on the lateral aspect of his calf. The wound base was 40:60 ratio fibrogranular with erythematous borders that extended 6mm from the wound bed. Surrounding flesh was warm to the touch when compared to the contralateral side. It did not probe to bone, had no tracking, and exudate was moderate. A wound culture grew *Staphylococcus aureus* and pain was reported as 6/10.

Day 1



Management

Treatment began with mechanical debridement. Wound base was brought to bleeding and a thin layer of CurX antimicrobial gel was applied to the ulcer and surrounding tissue. The wound was dressed with a FiltreX bandage and this dressing was left in contact with the wound for 5 days. The patient was permitted to bathe while the FiltreX was in place, as it provides moisture protection. At day five, the home health nurse reported significant granulation and a reduction in the wound size from 3.2cm x 1.9cm x 0.2 cm to 2.1cm x 0.9cm x 0.05cm.

Ten days into treatment revealed significant epithelialization of the wound bed. The wound measured 1.3cm x 0.4cm. Depth was no longer measureable as the surrounding tissue had granulated in. The patient reported no further pain, erythema had resolved, and temperature returned to appropriate, indicating a resolution of the inciting infection.



Dressing with CurX and FiltreX was continued for 10 more days at which time the wound was found to be completely resolved with full epithelialization of the wound and the formation of fibrous tissue.



Discussion

CurX is an adjunctive therapy for chronic diabetic ulceration. It is our conjecture that the petroleum base provides the moisture necessary for proper wound healing without macerating the wound. Furthermore, the non-cytotoxic, anti-microbial properties are conducive to rapid healing in that it allows for unimpeded fibroblastic activity to take place, thereby creating an ideal setting for the body's natural response to wound healing.

When assessing which dressing to use, we were conscious of the fact that comfort, affordability, and ease of use were important factors to Mr. C. Using the FiltreX in conjunction with the CurX was found to be the ideal treatment formula. The bandage, and subsequently the CurX, stays in contact with the wound for up to 7 days. This dressing endurance, both primary and secondary, is unique and minimizes the need for daily interruptions of the patient's life for dressing changes. Additionally, the bandage is hydrophobic which ensures the patient may bathe without concerns of dressing or wound disruption. This is a unique advantage that Mr C was very pleased with, as the ability to shower made him more comfortable, and the treatment more tolerable. In terms of patient compliance, the comfort and versatility of this dressing combination increases the likelihood that the patient will maintain a proper healing environment thereby leading to more successful outcomes. In terms of cost, it was comparable to other products on the market, but other products require more frequent dressing changes and replacement.

Ultimately, the combination of CurX and FiltreX provided the ideal environment for complete resolution of this difficult to heal diabetic ulcer and Mr C was grateful and relieved to have this wound resolved in such a short time.

Recommendation

It is important to recognize the role that cytotoxicity plays in wound care. While historically gold standard treatments, such as SSD and betadine, have proven to be effective in the past, the field is evolving as new products are being produced that are non-cytotoxic. The utilization of these advancements are clearly more amendable to patient treatment goals, as they allow for the unhindered production of fibroblastic activity at the wound site. In Mr. C's case, treatment with CurX allowed for rapid granulation of the wound bed and complete closure. It is our conjecture that, as we look toward the future of wound care products, treatments that do not interfere with the body's natural healing process will replace outdated

standards that are counterintuitive to the aims of tissue regeneration and wound closure. As a non-cytotoxic, anti-microbial, CurX is forging new paths toward enhanced outcomes.