A case study: Successful early autologous skin grafting after significant debridement of skin necrosis from IV Xylazine and Fentanyl abuse.

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INTRODUCTION

IV Xylazine and Fentanyl abuse has become an increasing epidemic in the greater Philadelphia area and can cause significant necrosis of surrounding tissue. This combination is known to prolong the high, however, if the vein is missed or extravasates, the surrounding tissue becomes ulcerated with subsequent soft tissue death. When left untreated, a thick woody eschar typically builds up overtop of these wounds, concealing underlying damage that can reach muscle, tendons, and bone leading to significant infections. Patients with these wounds complain of severe pain to wound sites, and many continue to inject drugs in order to combat this pain caused by these ulcerations, which then perpetuates the cycle. Many of these wounds require prolonged healing times with questionable success using skin grafts for multifaceted reasons.

CASE HISTORY

A 40-year-old male with a past medical history of IV drug abuse presented to the ED for worsening bilateral forearm wounds. Patient reported:

- he was injecting 24 bags of IV Fentanyl and Xylazine into his arms daily.
- his wounds had become increasingly necrotic and malodorous.
- wounds started three to four months prior.
- he had not previously sought treatment for them.

Patient reported not seeking help earlier due to previously encountered discrimination in healthcare facilities, anxiety regarding opiate withdrawal during hospitalization, poor pain control, and shame.

REFERENCES

- Gallagher, K. Necrotizing Fasciitis of Forearms in Intravenous Heroin User: Case Report of Advanced Wound Management Improving Dressing Tolerance and Expediting Skin Graft. Abstract published at SAWC Fall 2020. https://www.woundsource.com/poster/necrotizing-fasciitis-forearms-in-intravenous-heroin-user-case-report-advanced-wound
- McNinch, JR; Maguire, M; Wallace, L. A Case of Skin Necrosis Caused by Intracenous Xylazine Abuse. Abstract published at SHM Converge 2021. Abstract 559 Journal of Hospital Medicine. https://shmabstracts.org/abstract/a-case-of-skin-necrosis-caused-by-intravenous-xylazine-abuse/. September 28th 2022.

Day of presentation

After 1st Debridement

Post-op Day 7

Granulation tissue on day of grafting

Day 5 after STSG and day of discharge

Outpatient follow-up 32 days after initial presentation

INTERVENTION AND PLAN

On day of patient presentation to the hospital, due to the thick eschar, it was unclear how deep his wounds were, and patient was taken to the OR the following morning for significant debridement. After the first debridement, areas of exposed tendon and muscle were evident. Post-operative measurement of right forearm wound was 17x10x0.2cm and left forearm was 20x12x0.2cm. Wound cultures were positive for multiple pathogens including two morphotypes of *Staphylococcus aureus*, *Proteus mirabilis*, *Bacteroides pyogenes*, and *Clostridium perfringens*. Infectious Disease placed patient on IV vancomycin and Zosyn. The Addiction Medicine team was involved for pain control and opiate withdrawal management. The Acute Surgical Wound Service (ASWS) was consulted for advanced therapy dressings to be placed as patient would likely be unable to tolerate bedside negative pressure wound therapy (NPWT) changes. Wounds were cleansed using a pure hypochlorous acid based wound cleanser (pHA)* for infection prevention. A silver impregnated hydrofiber˚ was utilized for bedside dressing changes post-operatively to provide antimicrobial effect, ease of dressing removal, and exudate management. Patient returned to the OR five days after first surgery for repeat debridement of bilateral forearms. Silver impregnated hydrofiber˚ continued to be utilized until day 11 after the initial surgery, at which time patient appeared near ready for skin grafting, so in order to enhance healthy granulation tissue, NPWT was placed. Four days later, VAC was removed in the OR and patient was able to receive an autologous skin graft using both thighs as donor sites. NPWT was replaced and remained over graft site for five days post-operatively and when NPWT was removed, both grafts appeared healthy with full coverage noted. Extensive education was performed and next day patient was able to perform the daily dressings on his own, allowing for discharge on hospital day 21. When he followed up in the outpatient office 11 days later, both graft sites were noted to have 100% take and wounds were completely healed.

RESULTS AND DISCUSSION

From day of presentation to complete healing occurred in 32 days. Utilization of a multidisciplinary wound care approach which includes ASWS to help with proactive wound care management can lead to successful and earlier split thickness skin graft closure of complex wounds. Many issues can affect intravenous drug abusers' clinical outcomes, however with early incorporation of ASWS, a patient/provider trust was able to be established. This along with advanced wound therapies used in combination allowed for improved granulation tissue to allow for successful early autologous skin grafting. Six months after initial presentation, patient remains drug-free, contributing his outpatient success to his inpatient care.

TRADEMARKED ITEMS

*VASHE® Wound Solution, Urgo Medical North America, Fort Worth, TX, USA

˚Aquacel® Ag Extra, ConvaTec, Inc., Bridgewater, NJ, USA