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CASE REPORT
Reconstructive

Morel-Lavallée Lesion with Friction Burn: Management Using Veraflo Vac Dressing, Preserving Body Contour

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Summary: While the standard of care for subcutaneous degloving injuries (Morel Lavallee lesion) in conjunction with friction burns is drainage, wide excision and grafting, this case was treated with drainage and continuous lavage with the help of the noncompressible Veraflo Vac dressing. This led to rapid reattachment of the tissues and preservation of body contour long term. *(Plast Reconstr Surg Glob Open 2020;8:e2759; doi: 10.1097/GOX.0000000000002747; Published online 10 April 2020.)*

INTRODUCTION

Morel-Lavallée lesions are posttraumatic, closed degloving injuries occurring deep to the subcutaneous plane due to disruption of capillaries resulting in an effusion containing hemolymph and necrotic fat. Although only 1 reference of a Morel-Lavallée lesion in combination with deep friction burn can be found in the literature,[1] we are confronted with a combination of friction burn and subcutaneous closed degloving injuries 2–3 times a year in our burn center, mostly resulting from roll-over or run-over trauma. Hak et al[2] described in their review of 24 cases without skin lesion in 1997 that 46% of these collections were culture positive despite being closed injuries and concluded that "the wound should be left open, and repeated surgical debridement of the injured tissue is recommended."

Although drainage is one standard component of the treatment, the dilemma in the treatment of these combined lesions is that deep dermal injuries require surgical debridement and grafting to prevent infection while the underlying fat necrosis and hematoma prevent graft take. This often leads to excision of large tissue areas and grafting onto fascia, which results in very disfiguring scarring with contour deficits that are often too large to repair.

CASE

This case report of a 13-year-old girl who was run over by a school bus demonstrates an alternative treatment option, using an instillation vacuum dressing with noncompressible foam tubing to continually wash out the

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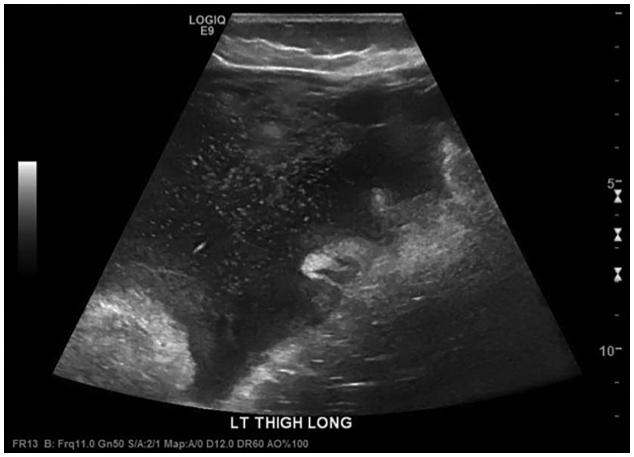

Fig. 1. Ultrasound image of subcutaneous degloving injury (Morel-Lavallée) left hip. LT, left.

Fig. 2. Left hip friction burn with underlying Morel-Lavallée lesion.

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Fig. 3. Left hip after drainage and with Veraflo cleanse choice foam (Veraflo cleanse, KCI) in place.

necrotic fat and blood clot, while preserving the dermal layer and led to preservation of the hip contour.

The patient was admitted in November 2018 with pelvic fractures, 7.5% total body surface area mixed second- and third-degree road rash to left hip and flank, left shoulder, right hand, and right popliteal fossa and a large subcutaneous degloving injury (Morel-Lavallée lesion) of the left flank (Figs. 1, 2). The left pubic ramus was internally fixated. The burn service was consulted in conjunction to pediatric surgery for the management of the road rash burns. Instead of excision and grafting over the left flank and hip, the subcutaneous fluid (blood and fat, 1,200 mL) was drained via an inferior and superior incision. A noncompressible foam tubing (Veraflo cleanse, KCI) (Fig. 3) was threaded through the subcutaneous tunnel and combined with an external instillation vacuum-assisted closure (VAC) dressing (Veraflo; KCI, San Antonio, TX). The wounds were irrigated every 4 hours with 0.25% Dakin's solution via the Veraflo Vac system with a dwell time of 10 minutes. The irrigation Vac system was changed twice, every 3 days, under sedation with replacement of the tunneling foam, and eventually, the Vac dressing was discontinued after 10 days when the remaining fat and dermal tissue were reattached to the underlying fascia. The road rash wounds showed signs of epithelialization and were not grafted and ultimately healed after discharge (24 hospital days) with some hypertrophic scarring, but no contour deficit (Fig. 4).

Fig. 4. Hip contour at 8-month follow-up.

CONCLUSIONS

Similar situations can evolve in large-volume subcutaneous collection or infection, where a large amount of necrotic fat and hematoma lead essentially to the same scenario as described above. When caught in early stages of infection, this instillation vacuum system approach may be able to save the patient from large disfiguring excisional debridement.

Contraindications for using this technique would be obvious full-thickness skin necrosis or signs of progressive necrotizing soft tissue injury, in which case open wide excision needs to be implemented immediately.

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