Perineal Avulsion Injury in an Austere Environment Managed with Flowable Hemostatic Traumagel: A Remote Care Case Report

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BACKGROUND AND OBJECTIVE[1-3]

- Hemorrhage is the leading cause of preventable trauma-related deaths.
- Half of these deaths occur before patients reach definitive care.
- Traditional hemostatic methods have limitations depending on wound type and location.
- Tourniquets can cause tissue trauma, pain, vascular occlusion, and nerve injury.
- Emergency Medical Services (EMS) often combine several hemostatic approaches.
- We present a case with severe bleeding and soft tissue trauma managed with a tourniquet and a flowable hemostatic gel (Traumagel).

CASE DESCRIPTION

- An 81-year-old male in a rural setting was ejected and was dragged underneath a tractor.
- Avulsion injury involved the left groin and perineum extending toward the left buttock.
- The wound measured 15 x 7 x 10cm with extensive soft-tissue loss and exposed tendons and ligaments.
- With junctional location, tourniquet placement was not possible. Traditional wound packing was considered difficult given the wound depth and irregular geometry.
- EMS deployed two 30-mL syringes of Traumagel followed by approximately three minutes of manual compression and achieved rapid hemostasis.
- Hemostasis was sustained over prolonged evacuation time to definitive care (> 2 hours).
- Exploration demonstrated a proximal adductor muscle disruption with extensive soft-tissue loss
- Wound underwent reconstruction with muscle repair and drain placement.
- Outcome: Discharged to inpatient rehabilitation

TRAUMAGEL APPLICATION*[a]

Figure 1: Traumagel applied to a miter saw injury involving transection of the ulnar artery and following removal of the tourniquet.

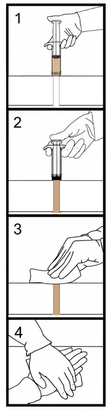
Figure 2: Injury upon arrival at definitive care, with Traumagel still present in the wound and hemostasis maintained.

Figure 3: Left hand after vascular and bone reconstructive surgery.

Figure 4.: Left hand several weeks after injury and definitive repair. Patient expected to regain 90% of function.

* Representative images, not the actual case.
[a] Images adapted from our IJSCR *publication in press*

APPLICATION SCHEMATIC



Traumagel is a single-use hemostatic gel for temporary external use only. It is viscous, opaque, and tan in color and supplied as an individually pouched 30 mL hemostatic gel syringe.

1. Identify the source of bleeding and clear as much blood as possible.

2. Insert the applicator tip deep into the wound and quickly expel all contents.
3. Place gauze over the Traumagel applied to the wound and apply moderate palm compression, hand over hand.
4. Continue compression for three minutes or until hemostasis is achieved.

Traumagel must be removed within 24 hours of application with wound irrigation.

CONCLUSIONS

- Traumagel's application was rapid, allowing for hemostasis in an irregular complex wound.
- The case report demonstrates the usefulness of a flowable hemostatic gel in controlling hemorrhage in junctional wounds where applying tourniquets and traditional packing is challenging.
- Durable hemostasis facilitated stabilization for transfer and definitive surgical repair.
- Traumagel may be incorporated as an effective hemostatic adjunct in difficult bleeding scenarios.

REFERENCES

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ETHICS AND CONFLICT OF INTEREST

JE was previously employed with Orangeburg County EMS. In accordance with HIPAA guidelines, no Protected Health Information is shared between Orangeburg County EMS and Williamsburg County.

DR received a travel honorarium from Cresilon. Inc, the manufacturer of Traumagel to present this work. All authors report no financial interests, and no author received any direct compensation for their contributions to present or discuss this case report.