UPMC LIFE CHANGING MEDICINE

Novel Technique for Management of Painful Road Rash Injuries

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BACKGROUND

Road rash injuries include painful skin abrasions, burns or wounds resulting from trauma accidents on cemented or tarred surfaces. Wounds vary in severity, depth, and degree[1, 2]

- Complications include infection, sepsis, wound progression, pain (often significant, resulting from wounds and wound related treatments[3,4]), embedded road debris, and devitalized tissue.
- Routine Standard of Care includes topical antibiotics, petroleum dressings, or moisture retaining therapies, and requires frequent and painful dressing changes.

CASE OVERVIEW: METHODOLOGY

20-year-old male sustained multiple injuries in a motorcycle accident, including:

- Subarachnoid head bleed
- Multiple mixed partial deep and superficial thickness wounds on his arm and legs

Initial treatment:

- Primarily focused on patient head injury and maintenance of neurological stability, which precluded use of pain medications. Because cleaning of wounds was reported as highly painful, all wounds were initially managed conservatively with simple petroleum-based contact layers and absorbent pads.

Upon hospital discharge 4 days later:

- He was treated at home by his caregiver, a wound care nurse. Due to the high level of pain, his caregiver elected to utilize TPD* to treat the wounds instead of application of topical antibiotics. Mechanical and autolytic debridement was performed to manage the exudate and remove the remaining embedded road debris.
- TPD was applied (sprinkled on the wounds), followed by a contact layer and gauze after the wounds were cleaned.

MATERIALS

TPD is a novel powder dressing comprised primarily of biocompatible polymers. Upon hydration with saline, TPD granules aggregate to form a moist, oxygen-permeable matrix that protects the wound from contamination while helping to manage excess exudate through vapor transpiration, as well as some negative pressure effects on the wound. Once applied, TPD may be left in place for up to 30 days and additional powder may be added as needed without requiring primary dressing changes. Simple secondary dressings may be used in areas of high exudation or friction. TPD dries and flakes off as the wound heals.

**Altrazeal® Transforming Powder Dressing (USA)*

TPD APPLICATION AND RESULTS

- TPD was topped off as needed, secured with contact layers, absorbent pads and a net dressing.
- On post-injury day nine, five days after initial TPD application, all wounds were epithelialized.
- Immediate pain relief was reported by the patient following TPD application.
- There were no complications of infection or wound progression.
- Post-healing scarring was minimal to absent.

CONCLUSION

Based on the accelerated wound healing, and pain reduction results associated with this patient, we conclude that TPD offers a safe and effective alternative to Standard of Care for the management of painful road rash injuries.

REFERENCES AND ACKNOWLEDGEMENTS

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