INITIAL EXPERIENCE WITH NEXOBRID ENZYMATIC DEBRIDEMENT OF DEEPLY BURNED HANDS (P105)

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Introduction: Early removal of the eschar is a cornerstone of modern burn care especially in challenging anatomical areas such as hands. Burns of the extremities are prone to develop increased interstitial pressure and Burn Induced Compartment Syndrome (BICS) due to the swelling of subcutaneous tissues within the constricting burned skin and eschar. Excisional debridement that can be combined or executed as escharotomy followed by autografting is the preferred standard of care (SOC). These are extensive and challenging surgical procedures with potential complications and collateral damage especially in sensitive anatomical areas such as the extremities. The intricate anatomy of the hand makes the diagnosis of burn depth, elevated tissue pressures, and excisional debridement even more challenging leading to delay in surgery and additional tissue damage from burn propagation and increased pressure with compromised tissue circulation.

We hypothesized that NexoBrid (NXB), a novel Bromelain based enzymatic debriding agent, will remove the burn eschar early on admission in a 4 hour application, making it an enzymatic surgical tool, reducing BICS, and minimizing the need for emergent escharotomy, surgical excision and grafting in deep hand burns.

Methods: We present the first deeply burned hands treated in our institute with NXB enzymatic debridement. The burns were treated with a 4 hour NXB application, followed by a 2 hour wet-to-dry soaking. Interstitial pressure was measured before and after NXB debridement.

Results: We found that NXB could be applied early following admission and that a single 4 hour application removed the entire burn eschar down to a healthy, bleeding bed composed of either dermis or fat according to the original trauma. Interstitial burn measurement before and after NXB application revealed that elevated interstitial pressure decreased to normal after NXB application.

All these hands were candidates for escharotomy followed by or combined with excisional surgery and grafting.

In this small series only less than 1% areas of full thickness burns had to be autografted with the rest healing spontaneously.

Conclusion: Treatment of hands and extremities burns with NexoBrid can be done practically on admission without a previous burn depth diagnosis and dependency on surgical personnel or facilities. It reduces tissue pressures, the need for escharotomy, as well as the need for surgical excision and grafting.