

A NEXT SCIENCE® CASE STUDY

DEEP PARTIAL THICKNESS BURNS: SCALD BURN - INFANT

DETAIL

6-month-old male infant presented with scald burn

- Healthy, with no underlying conditions.
- Current exam: infant with partially healed scald burn to torso, left leg and perineum; one deeper area unhealed
- Previous treatment: bacitracin and petrolatum gauze
- Duration of current injury: 7 days post burn
- BlastX™ Initiated: post burn day (PBD) #7
- Measurement: <1% TBSA
- Treatment: BlastX application every 1-2 days
- Week 2: Healed post burn day (PBD) #14

REFERENCE

“During the initial hours and days post-burn, gram-positive staphylococci, as members of normal skin flora, colonize the wound surface because they often survive the thermal injury, followed by virulent P aeruginosa” (Church, 2006).

“Inflammatory virulence factors are produced in burn exudates even when there are relatively small quantities producing biofilm and slough. Unchecked biofilm in pediatric burns can lead to: pain, disfigurement, scarring, auricular chondritis, the need for surgical desloughing, grafting, pain and progression to infection healing” (Williams, 2009).

Church D, Elsayed S, Reid O, Winston B, Lindsay R. Burn wound infections. Clin Microbiol Rev 2006;19:403–34; Williams, F.N. et al. (2009). The leading causes of death after burn injury in a single pediatric burn center. Crit Care 13, R183 (2009) doi:10.1186/cc8170

VISUALS



12/30/19



01/08/20

RESULTS

Wound healed in less than 10 days

QUOTE

“This burn responded quickly, the gel was well tolerated w/o gel associated pain, without development of slough or progression to an infected state”.
Dr. Paul Glat

A NEXT SCIENCE® CASE STUDY

DEEP PARTIAL THICKNESS BURNS: THERMAL FLAME BURNS

DETAIL

4-year-old female, bilateral ears, scalp

- Healthy, with no underlying conditions.
- Current exam: child with partially healed thermal burn from hair fire with deep 2nd degree burns to scalp, bilateral ears
- Previous treatment: bacitracin ointment daily
- Duration of current injury: post burn day (PBD) #2
- BlastX™ Initiated: 12/29/2019 post burn day (PBD) #2
- Measurement: 1% TBSA
- Treatment: BlastX application every 1-2 days for 13 days
- Week 2: Scalp and ears burns healed by day 13

REFERENCE

“During the initial hours and days post-burn, gram-positive staphylococci, as members of normal skin flora, colonize the wound surface because they often survive the thermal injury, followed by virulent P aeruginosa” (Church, 2006). “Inflammatory virulence factors are produced in burn exudates even when there are relatively small quantities producing biofilm and slough. Unchecked biofilm in pediatric burns can lead to: pain, disfigurement, scarring, auricular chondritis, the need for surgical desloughing, grafting, pain and progression to infection healing” (Williams, 2009).

Church D, Elsayed S, Reid O, Winston B, Lindsay R. Burn wound infections. Clin Microbiol Rev 2006;19:403–34; Williams, F.N. et al. (2009). The leading causes of death after burn injury in a single pediatric burn center. Crit Care 13, R183 (2009) doi:10.1186/cc8170

VISUALS



Left – Day 1



Right – Day 1



Note hair ingrowth into burn area



Left - Day 8



Right - Day 8

RESULTS

Scalp burn healed by day 8; bilateral ears healed by day 13.

QUOTE

***“These burns responded quickly, the gel was well tolerated w/o gel associated pain, did not develop slough or progress to an infected state”. Scalp burns healed with no scarring and had hair ingrowth; ears healing without loss of cartilage”.
Dr. Paul Glat***

A NEXT SCIENCE® CASE STUDY

LEFT DORSAL FOOT BURN – THERMAL BURN FROM BOILING HONEY

DETAIL

57-year-old male, beekeeper who presented with a 2nd degree thermal burn to the left dorsal foot x3 weeks

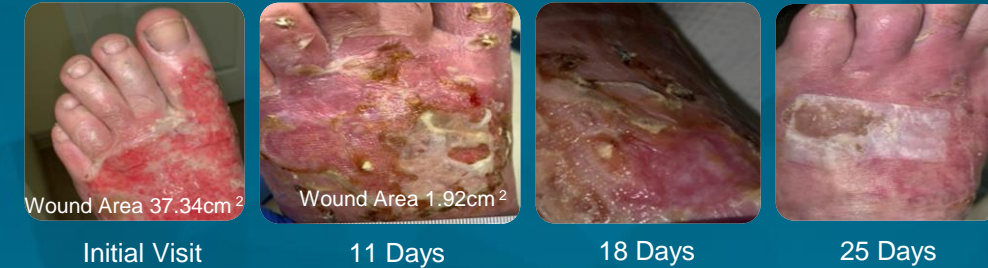
- Comorbid pathology: hypertension, hyperlipidemia, left arterial disease with high velocity and monophasic wave forms, 0.87 toe/brachial indices, lymph edema
- Current exam: left dorsal foot presents with diffuse knee to toe edema, large amount of serous drainage, macerated and blistered tissue, with areas of crusted burn tissue and slough, green drainage and staining on the bandage and skin
- Previous treatment: Patient self treated with his own honey; covering with gauze and wrapping with ACE bandage: changing several times per week.
- Duration: 3 weeks post burn; initial visit: 9/5/2019
- BlastX™ Antimicrobial Wound Gel Initiated: 9/5/2019
- Measurement: 7.59 x 4.92 cm²; calculated wound surface area 37.34cm²
- Treatment: Sharp debridement, TorrentX™ wound wash, BlastX™ covered with Promogran™ Matrix, hydrofiber dressing for drainage, and compression wrap from knee to toe; 2x week for 2 weeks then weekly.
- Nutritional Rx: Vitamin C and D and Protein drink

REFERENCE

Burn wound exudate is an advantageous medium for refractory pathogens among burn patients such as: *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Acinetobacter baumannii*. However, *Pseudomonas aeruginosa* is the only pathogen able to grow in the human burn exudate.¹ Inflammatory virulence factors are produced in exudates even when there are relatively small quantities producing biofilm and slough.²

1. Gonzalez MR, et al. (2016). Effect of human burn wound exudate on *Pseudomonas aeruginosa* virulence. *mSphere* 1(2): e00111-15. doi:10.1128/mSphere.00111-15. 2. Gonzalez MR., et al. (2018). Transcriptome Analysis of *Pseudomonas aeruginosa* Cultured in Human Burn Wound Exudates, *Frontiers in Cellular and Infection Microbiology*. (8) 39pgs

VISUALS



RESULTS

Burn wound area reduction of 95% by day 25 of treatment using BlastX™ combined with multimodal therapy.

- Facilitated rapid re-epithelialization, without gel associated pain, scarring or infection.
- Deconstructed and removed biofilm, mitigating inflammation and reducing wound edema

QUOTE

“You can’t heal [a wound] until the biofilm is out, the inflammation is curbed and the wound is reset. Destroy pathogens, extinguish chronic inflammation, reset the wound healing trajectory all with the Xbio technology”.
Matthew Regulski, DPM