Case Report
Traumatic Abrasion

NovoSorb® BTM
Biodegradable Temporising Matrix

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NovoSorb® BTM was used to successfully close a large wound on a compromised patient after failure of a meshed bovine dermal matrix.

A male patient sustained a 44% Total Body Surface Area (TBSA) tissue deficit from an abrasion trauma. The injured area included his posterior torso and other locations. The patient had multiple comorbidities, which limited reconstructive options and increased wound care risks. NovoSorb BTM was selected as the most suitable option for treatment after failure of a biological dermal matrix.

Figure 1: Initial presentation; injuries to the posterior torso.

Figure 2: 9 days post initial excision; exposed muscle, fascia, and bone.

Figure 3: 5 days post biological dermal application; meshed bovine matrix failed to incorporate and was removed.

Figure 4: 4 days post NovoSorb BTM application; hematomas noted with early vascularisation.

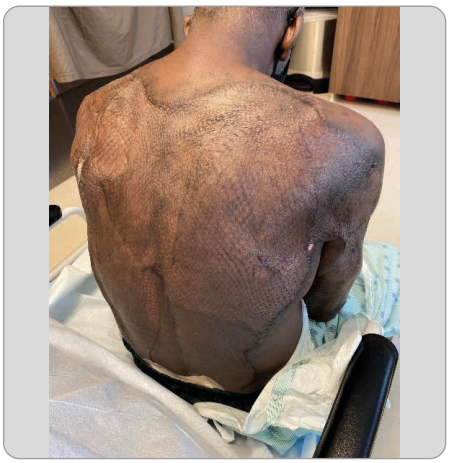

Figure 5: 7 months post injury date; smooth and pliable skin with minimal scarring.

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Background

A 44-year-old African American male sustained a traumatic abrasion to his posterior torso (Fig. 1) and other locations after being hit and dragged underneath a moving vehicle for an unknown distance.

The patient had multiple comorbidities including HIV, alcohol-induced chronic pancreatitis, polysubstance abuse, and poorly controlled diabetes which limited reconstructive options and increased wound care risks. NovoSorb BTM was selected as the most suitable option for treatment after failure of a biological dermal matrix.

Reconstructive options included the excision and debridement of necrotic tissue followed by conservative wound care with risks of infection, sepsis, death, and/or hospice. Local flap coverage for exposed bone was discussed with the plastic surgery team but ultimately rejected due to the patient's comorbidities and injuries that extended into muscle. After a thorough discussion with the clinical team and the patient's family, it was decided to remove all necrotic tissue and attempt wound closure initially with the help of a biological dermal substitute.

Treatment

The patient underwent tangential excision and debridement two days after fluid resuscitation was completed (Fig. 2). Following excision and debridement, a meshed bovine dermal matrix was initially placed onto the exposed muscle of the posterior torso. After 5 days, the meshed bovine dermal matrix was found not to be a suitable option for this patient's wounds due to poor engraftment and desiccation of the dermal matrix (Fig. 3). The bovine dermal matrix was removed after failing to incorporate with the wound bed, and NovoSorb BTM was applied and secured with staples.

Initial outer dressings to the torso included a silver dressing, saline-soaked 10-ply, and burn pads with dry netting. Four days post NovoSorb BTM application, hematomas were noted under NovoSorb BTM (Fig. 4). The affected areas of NovoSorb BTM were lifted to remove the haematomas and manage active bleeding. The NovoSorb BTM was resecured back in place with staples.

At 20 days post NovoSorb BTM application, the sealing membrane was removed from the posterior torso, and the wound bed was refreshed using hydrosurgical excision. The wound was closed with a combination of a 3:1 split-thickness skin graft sprayed with autologous skin cell suspension. The graft take was successful with exception of the left scapula.

Outcome

The patient's wounds were completely re-epithelialised at 7 months after the initial incident and were beginning to mature (Fig. 5). Upon physical examination, the skin was smooth and pliable. Of note, the patient had decreased range of motion due to scar bands on his bilateral posterior shoulders. These can be managed with future therapy and an adjacent tissue rearrangement if the patient desires. At follow-up, the patient was happy with the outcome and is able to perform daily living activities without assistance.

NovoSorb BTM is designed to temporise the wound and facilitate the construction of a vascularised neodermis, ready for definitive closure.
NovoSorb BTM is indicated for full or deep partial thickness burns and wounds, surgical and reconstructive wounds and traumatic wounds.
For full device details, including indications, contraindications, warnings and precautions, refer to the Instructions For Use, available at **polynovo.com**

The case information presented is intended for educational purposes only. Any opinions expressed are the surgeon's own and not intended as a product endorsement.

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