A 15-YEAR-OLD WITH A FULL THICKNESS BURN TO HIS PERINEUM

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Introduction

The European Burns Association describes a burn injury as a complex trauma needing multidisciplinary and continuous therapy;[1] with burns being described as one of the most severe forms of trauma an individual can have.[2] A European-wide systematic review found that, across Europe, mortality rates vary from 1.4% to 18%14. There was a clear correlation between prognosis and the extent and depth of the burn injury.[3]

A complex burn (previously described as major burns) is any thermal burn injury affecting a critical area (hands, feet, face, perineum or genitalia; burns crossing joints and circumferential burns or covering >15% TBSA in adults) or >10% in children (>5% in children younger than 1 year); all chemical and electrical burns are considered complex. In complex burns infection, pain and scarring can be problematic with possible long-term impact on patients' physical and psychological wellbeing.[4]

This communication reports on the management of a 15 year old male (Darren) who sustained a complex burn, with 26% TBSA mixed partial/full thickness burns to his abdomen, thighs and perineum following a motorbike accident. On the day in question Darren (a fit and well youth), was riding a motorbike (without a helmet) when he collided with a van: on impact the motorcycle exploded. As well as the burns, Darren also fractured his right femur and incurred a traumatic brain injury. Burns resulting from exposure to flames tend to cause deep damage because of the high temperature involved.[5]

Method

Darren had a full thickness injury measuring 4cm x 3cm to his perineum which was necrotic in appearance. The other areas, namely abdomen and thighs were debrided and grafted, but due to the location of the perineal wound grafting was not an option. Appropriate care and management, including dressing selection was vital as the depth of injury has a major bearing on the longer-term management of the burn injury.[6] In Darren's case due to the location of the burn the risk of bacterial colonisation and infection was high. It was vital that an antimicrobial dressing, also capable of facilitating autolytic debridement was selected. Whilst there was superficial nerve damage, thus reducing pain to the immediate area, the surrounding tissues were inflamed, and therefore likely to display a heightened response to painful stimuli. The dressing therefore, also needed to be atraumatic.

The application of daily Flaminal® Hydro (Flen Health) helped the team to address all of these issues and negated the need for secondary dressings which would not have been a viable option particularly in such a hirsute area. After a month the dressing changes were reduced to three times per week utilising Flaminal® Forte as the exudate increased.

Results

Darren found the dressing to be comfortable and cooling to the sensitive area which meant that dressing changes for all concerned were less stressful. The necrotic tissue was debrided after a month of treatment with Flaminal® Hydro, with the area healing completely within two months, thus alleviating the necessity for a further general anaesthetic and graft.

Discussion

A burn may be superficial (involving only the epidermis); superficial dermal (involving the epidermis and papillary dermis) also referred to as superficial partial-thickness burns. Deep dermal burns extend into the reticular dermis with the epidermis and most of the dermis destroyed. In full-thickness burns damage extends through all the skin structures and may also extend to underlying structures such as muscle or bone.[7] It is unequivocal that burns are painful with a high risk of infection; they are challenging to both clinicians and patients causing the latter a great deal of distress physically and emotionally. Their subsequent management is therefore pivotal to a good outcome for the patient.

Flaminal®, an Enzyme Alginogel® (glucose oxidase and lactoperoxidase), has a proven broad-spectrum antibacterial activity[8] thereby helping to control bioburden, whilst the gel helps to soothe and relieve pain conforming and contouring to all areas of the perineum. Hydrogels have been suggested to be effective for managing burn wounds as they promote a warm, moist environment for regenerating healthy tissue or promoting autolysis.[9,10]

Conclusion

Flaminal® (Hydro and Forte) proved to be a product that could be utilised throughout the healing trajectory of the burn helping to maintain patient comfort and negate the need for potentially painful dressing changes. The area remained free of infection and enabling clinicians to focus on Darren's other injuries and their sequelae.

Day 0

4 weeks

6 weeks

8 weeks - healed

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