



Outpatient Burn Treatment: A Conservative and Effective Personal Approach

Loonen MPJ*

Plastic and Reconstructive Surgeon & Head of Department, Dubai Cosmetic Surgery, Abu Dhabi, UAE

*Corresponding author: Martain Pierre Jean Loonen, Plastic and Reconstructive Surgeon & Head of Department, Dubai Cosmetic Surgery, Abu Dhabi, UAE; E-mail: mloonen@yahoo.com

Received date: March 02, 2018; Accepted date: March 05, 2018; Published date: March 12, 2018

Copyright: © 2018 Loonen MPJ. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Keywords: Skin grafting; Hydrogel treatment; Blister skin; Hypergranulation; Fusidic acid

Short Communication

Burns are common injuries in the daily medical practice and may have major physical and psychological impacts. Burns affect all ages. Approximately 2,500,000 people are burnt each year in the United Kingdom. Of these, 13,000 are admitted to the hospital with a mortality rate of 300 burns per year. Burns are a major problem in the developing world with higher mortality rate than in the developed world.

Indication for hospitalization and fluid resuscitation are burns covering more than 15% of the total body surface in adults and more than 10% of the body surface in children. Other indications are pain management and social indications (no partner, high age etc.) [1]. Hospitalized patients undergo skin grafting sooner after the initial injury (range 1.7-2.5 days). On average, outpatients treated with local wound care undergo skin grafting 9 days later (10.7-12.3 days). In addition, outpatients have a significantly lower skin grafted area compared with inpatients with comparable skin graft take among both groups [2].

This is an indication that the initial burn depth evaluation may be difficult and consequently second degree burned areas are treated as full thickness burns with more extensive debridement and skin grafting as necessary. Consequently, as a result of extensive skin grafting, the aesthetic appearance will be less with color differences, texture differences and the risk for additional scar tissue at the edges of the grafted areas.

The cost for outpatients treated by debridement and skin grafting is substantially lower compared with an inpatient treatment up to a factor 7 difference [2]. The amount of wound dressings available on the market is extensive and major price differences among different companies exist. In my outpatient practice, I have developed a personal treatment protocol based on a limited amount of dressing types:

Hydrogel treatment

Most of my burn treatments start with disinfection of the wound area with povidone iodine/saline followed by a hydrogel wound dressings on the exposed wound areas once per 2-3 days to promote autolytic debridement and to create a moist wound bed for stimulation of reepithelialization of the wound. If necessary, surgical outpatient debridement will be performed. The gel is covered by paraffin gauze or with a Fusidic acid impregnated intertulle covered by sterile gauzes.

Combined hydrogel intertulle dressings are available on the market. Hydrogel treatment alone may be sufficient to secondary close

superficial dermal wounds [3]. I leave blister skin intact which serves as a natural dressing. I only remove vital blister skin. I only puncture extensive painful blisters or blisters with functional hindrance without removal of the skin which serves as a natural barrier.

Surgical debridement of pediatric patients in an outpatient setting may be difficult due to the non-cooperative aspect of the patients. In my experience, most wounds can be treated without surgical debridement based on the autolytic aspect of some types of hydrogels. If necessary, a wound culture will be taken from the wound bed. In case of infection signs, I prefer to apply Povidone Iodine ointment dressings covered by paraffin intertulle and gauze dressings combined with surgical debridement.

Silver foam dressings

When the wounds are clear from fibrin layers or necrotic tissue, I prefer to apply silver foam dressing which smooths the granulation tissue to facilitate the reepithelialization process combined with an antibacterial effect. In addition, the foam forms a gel in contact with the wound fluid to keep the wound moist [4].

Antibacterial corticosteroid creams

In the situation of hypergranulation wounds, which may occur during the treatment of deep dermal/full thickness burns, I prefer to apply combined fusidic acid-corticosteroid creams covered by a Fusidic acid intertulle to smooth the hypergranulation tissue, to facilitate the reepithelialization process, to reduce the bacterial load and to reduce scar tissue. I alternate with silver foam dressings which can also be used in wounds with hypergranulation tissue [5].

I only prescribe antibiotics in case of cellulitis/erysipelas or systemic signs. In most cases, antibiotics are not necessary. Based on the local wound care protocol above, I achieve complete wound healing in more than 98% of my cases for superficial second degree, mid dermal, deep dermal and smaller full thickness burns. Additional topical scar treatment, especially for the deeper burned areas, is indicated.

According to most textbooks and publications, the healing time is 10-14 days for superficial second degree burns, 2-4 weeks for mid dermal burns and 3-8 weeks for deep dermal burns [6]. I noticed a reduction in the mentioned healing times with an average of 7-12 days when using the dressings types described above. Healing of superficial second degree burns within 7 days after the trauma is not uncommon. I use a comparable protocol for other (non-burn) wounds. Modern wound care has an important place in wound treatment and facilitates wound healing in a cost effective way. It can avoid surgical treatment in selected cases.

References

1. Hettiaratchy S, Dziewulski P (2004) ABC of burns: Pathophysiology and types of burns. *BMJ* 329: 504-506.
2. Gore DC (1997) Outcome and cost analysis for outpatient skin grafting. *J Trauma Acute Care Surg* 43: 597-602.
3. Vernon T (2000) Intrasite gel and intrasite conformable: The hydrogel range. *Br J Community Nurs* 10: 511-516.
4. Rembe JD, Fromm-Dornieden C, Bohm J, Stuermer EK (2018) The influence of human acute wound fluid on the antibacterial efficacy of different antiseptic polyurethane foam dressings: An in-vitro analysis. *Wound Repair Regen.*
5. Hon KL, Wang SS, Lee KK, Lee VW, Leung TF, et al. (2012) Combined antibiotic/corticosteroid cream in the empirical treatment of moderate to severe eczema: friend or foe? *J Drugs Dermatol* 11: 861-864.
6. Bullocks JM, Patrick WH, Shayan AI, Larry HH (2017) *Plastic surgery emergencies, principles and techniques*. Second edition, Thieme.