

Second Degree Burn Healed in 10 Days with Herbal Formulated HLQ Ointment

Tony Tang Yuqi^{1*}, Wang Feng², Li Fangzhou¹ and Tang Yuqiu³

¹Tangs Clinical Centre TCM, Singapore.

²Beijing Tsinghua Changgung Hospital, School of Clinical Medicine, China.

³Tang Jing Hua TCM Clinic, Hohhot, Inner Mongolia, China.

*Correspondence:

Tony Tang Yuqi, Tangs Clinical Centre TCM, 470 North Bridge Road, #05-01 Bugis Cube Singapore 188735, Tel: +65 63334066, Fax: +65 63339654.

Received: 22 December 2020; Accepted: 18 January 2021

Citation: Tony Tang Yuqi, Wang Feng, Li Fangzhou, et al. Second Degree Burn Healed in 10 Days with Herbal Formulated HLQ Ointment. *Dermatol Res.* 2021; 3(1); 1-3.

ABSTRACT

The challenge in the second degree thermal burn wound healing is the risk of infection and Hypertrophic scarring. We administered herbal formulated HLQ ointment on second degree. Burn wound, it produced zero pain of daily dressing changes and achieved complete re epithelialization in 7-14 days.

Keywords

Burn injuries, HLQ Ointment, Wounds, Silver sulfadiazine.

Introduction

A 14-year-old student presented with burn injury due to scalding soup exposure 6 hours prior to proper medical attention. Examination found deep rubor and necrosis of the epidermis occurs on left metacarpal carpal joint area where involving 1% of total percentage of body surface area (TBSA). The patient reported severe pain marked at 8 of the universal pain assessment tool (UPAT) measured on a scale of 1 to 10 (10 representing the worst pain possible) with reduced sensation. The burn penetrated into dermis where very rich plexus of nerves and blood vessels are contacted, some wound areas blanch with pressure and the pain is severe.

The second degree (partial-thickness) cutaneous burn wound was diagnosed provisionally. The severity of burn injuries is based upon depth and TBSA involvement, but the definitive determination of wound depth is not possible for the 12-24 hours because of vascular occlusive changes. Treatment was begun with topical herbal medicine HLQ ointment [1,2] dressed with cotton wool and bandage with twice per day replacement regimen.

Day 1

The patient reported UPAT pain was 3 of 10. The serous bullae formed (Figure 1). Because the epidermal barrier is lost, the wound forms blisters and weeps interstitial fluid.

Day 2

The patient's reported numeric rating scale itch intensity (NRSi) was 2 on a scale of 0 to 10 (10 representing the worst possible itch) and UPAT pain at 1 of 10. More bullae that contain serous fluid found on wound areas (Figure 1). Several chemical mediators with vasoactive and tissue destructive properties are released, including prostaglandins, bradykinin, serotonin, histamine, lipid peroxides, and oxygen radicals [3].

Day 3

The patient reported no ongoing pain but tenderness. No itch complained. Interstitial edema develops from altered osmotic pressure and capillary permeability. The hemorrhagic bullae formed on day 4 as the burn penetrates into the dermis. Burn wound heals through re epithelialization (Figure 1 day 4-14). At the wound edge, the basal cells start migrating across the viable wound bed. They are stimulated by loss of cell-cell contact inhibition, release of local growth factors. Keratinocytes in a HLQ ointment environment can migrate faster than those in a wound that becomes dry and develops a fibrinous scab.

Discussion

The burn wound itself should initially be rinsed with cold running water for 20 minutes in order to ease pain, reduce heat, and reduce burn depth [3]. Then the wound should be gently cleansed to remove any foreign material. The next step is prevention of infection, followed by creation of a proper healing environment. The challenge that came along with this stand procedure was how



Figure 1: The dry area (DA) in Panel A is a first-degree burn. Since the barrier function of the epidermis is intact, the affected area remains dry but is red and painful. The moist area (MA) on the hand in Panel A is second-degree or partial-thickness burn, which has destroyed the epidermis but has not penetrated completely through the dermis. Since the epithelial barrier has been destroyed, the wound weeps or forms a blister. Serous (SB) and hemorrhagic (HB) bullae formed between the epidermis and dermis. Because the epidermal barrier is lost, the wound forms blisters and weeps interstitial fluid. Several chemical mediators with vasoactive and tissue-destructive properties are released, including prostaglandins, bradykinin, serotonin, histamine, lipid peroxides, and oxygen radicals. Full epithelialization on day 4 to day 14. Burns heal without functional impairment or hypertrophic scarring. DA: Dry Area, MA: Moist Area, S.B: Serous Bullae, H.B: Hemorrhagic Bullae.

to best cover the excised burn wounds if clean running water is not immediately available. The other challenge of treating partial-thickness wounds is to encourage re epithelialization within 2 weeks minimizing the chance of hypertrophic scar [4]. Topical ointments such as bacitracin can be used for wounds, but they should be discontinued within a week, since they will invariably cause a rash. Topical antimicrobial include silver sulfadiazine, mafenide acetate, and silver nitrate are traditional burn wound care agents. However silver sulfadiazine is known to be cytotoxic and percutaneous absorption can lead to leukopenia. Silver sulfadiazine also produces a pseudoeschar that may interfere with burn depth assessment and prolonged application may lead to localized argyria [5,6]. Delay (>3 weeks) in wound healing increases the risk of hypertrophic scarring [7]. Second degree burns therapy aimed at minimizing the wound pain and scarring free. HLQ ointment is used on abdominal open wound protection and surgical wound heal in Tsinghua Changgeng Hospital [1,2], we administered it on second degree burn, it produced zero pain of daily dressing changes and achieved complete re-epithelialization in 7-14 days. We closely monitored second degree burn wounds healing process on daily routine follow up; these case studies indicate that HLQ herbal ointment improves time and quality of wound healing.

References

1. Wang Feng, Li Yuanxin. Non-operative self-healing of intestinal fistula after appendix cancer. *Tsinghua Changgeng Hospital Bulletin*. 2018.
2. Wang Feng, Li Yuanxin. Intestinal fistula with abdominal hemorrhage. *Tsinghua Changgeng Hospital Bulletin*. 2018.
3. LKP Kim, HCO Martin, AJA Holland. Medical management of paediatric burn injuries: best practice. *J Paediatr Child Health*. 2012; 48: 290-295.
4. Deitch EA, Wheelahan TM, Rose MP, et al. Hypertrophic burn scars: analysis of variables. *J Trauma*. 1983; 23: 895-898.
5. Rashaan ZM, Krijnen P, Klamer RR, et al. Nonsilver treatment vs. silver sulfadiazine in treatment of partial-thickness burn wounds in children: a systematic review and meta-analysis. *Wound Repair Regen*. 2014; 22: 473-482.
6. Bologna, Jean, Jorizzo, et al. *Dermatology*. 4th Ed. China, Elsevier. 2018; P.1571.
7. Gauglitz G. G, Korting H. C, Pavicic T, et al. Hypertrophic scarring and keloids: pathomechanisms and current and emerging treatment strategies. *Mol. Med*. 2011; 17: 113-125.