leaflet with Plastic Dressing Clinic's contact number that can be given to patients who are reviewed, referred or discharged from Emergency Department. It was surprising to note that 10 out of the 24 non-attenders in our study were children. With this group, we encourage attendance by phoning parents for children who were not brought to appointments. If necessary, especially when there is concern about non-accidental injuries or child protection issues, health visitor and patients' GP should be involved if children were still not brought to the subsequent rescheduled appointments in order to protect them and their burn management, as per our Trust "Child Not Brought" policy.

In summary, to the best of our knowledge, this is one of the very few studies that focused on DNAs in burns patients. From the perspective of good patient care and cost-effective analysis, once the decision is made to follow-up patients at Burns Clinic, patients' DNA should be carefully reviewed, particularly in the paediatric group. It should also be bear in mind that missing data commonly reported in Burns research as a result of patients' DNA or loss in follow-up could hamper accurate data analysis and study validity.

Conflict of interest

None.

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REFERENCES

[1] Goei H, van der Vlies CH, Hop MJ, Tuinebreijer WE, Nieuwenhuis MK, Middelkoop E, et al. Long-term scar quality in burns with three distinct healing potentials: a multicentre prospective cohort study. Wound Repair Regen 2016;24(July (4)):721–30.

[2] Cubison TC, Pape SA, Parkhouse N. Evidence for the link between healing time and the development of hypertrophic scars (HTS) in paediatric burns due to scald injury. Burns 2006;32(December (8)):992–9.

[3] NHS Improvement Reference Costs 2016/17; Highlights, analysis and introduction to the data. November 2017. Available from: https://improvement.nhs.uk/documents/1972/1_-_Reference_costs_publication_VSnAQ5x.pdf. [Accessed 5 May 2018].

[4] ITV Report The Unhealthy Cost of Missed Hospital Appointments. Available from: URL: http://www.itv.com/news/tyne-tees/2017-01-25/the-unhealthy-cost-of-missed-hospital-appointments/. [Accessed 5 May 2018].

[5] Finlay D, Burke K, Van de Ruit C, Lapuz R, Phillips M, Wood F, et al. Assessing the impact of missing data in evaluating the recovery of minor burn patients. Burns 2009;35(December (8)):1086–91.

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Letter to the Editor

Modified moist occlusive burn therapy may be a superior therapy for severe thermal burns

Dear Editor in Chief,

We read with interest the recent articles in Burns on comparison between moist occlusive burn therapy (MOBT) and moist exposure burn therapy (MEBT) for the management of burn wound. In 2012, Mabrouk found that moist occlusive dressing significantly improved the healing rate of partial thickness facial burns with better long-term outcomes compared to moist exposure dressing. Scar quality was improved in occlusive group. Frequency of changes, pain and patient discomfort were also less with occlusive group [1]. Nevertheless, in 2016, Sharifi-Yazdi found that occlusive dressing was more susceptible to microbial contamination and infections than exposure dressing. Although heavy colonization by skin and wound flora is often seen under certain types of occlusion, clinical infection is not a frequent occurrence [2].

We are writing to share our own clinical experience of using the technique in two patients with molten steel burn injury on the cervicofacial region. In our study, for the first time, we have combined a chitosan-based biogel with a sterile polyethylene film to create a paradigm for the evolution of MOBT in clinical trials. This new therapy we proposed is named modified moist occlusive burn therapy (MMOBT). Compared to the traditional MOBT, sterile polyethylene film effectively avoided the avulsion of new granulation tissue and alleviated the suffering of patients during dressing changes. Furthermore, the transparent film helped to directly and closely observe the change and healing of wounds anytime. Finally, compared to MEBT, the sterile polyethylene film covering could create a relatively closed and moist environment that could accelerate the speed of epithelization. As shown in our letter, two male foundry workers presented with painful burns on their cervicofacial regions after exposure to splashing 1500°C molten steel (Figs. 1A/2A). Following general anesthesia, two patients underwent the ultrasonic debridement (Figs. 1B/2B) and MMOBT (Figs. 1C/2C) successively. At follow-up 1year, both of them had achieved a favorable aesthetic restoration without reconstructive surgery (Figs. 1D/2D).

Fig. 1 – (A) The wound appearance before debridement; (B) after ultrasonic debridement; (C) application of MMOBT; (D) result at follow-up 1 year.

Fig. 2 – (A) The wound appearance before debridement; (B) after ultrasonic debridement; (C) application of MMOBT; (D) result at follow-up 1 year.

We are aware of the scarcity of available clinical data on the subject and hope that our study will benefit surgeons dealing with similar complex thermal burns.

1. The technique

1.1. *Ultrasonic debridement*

With the ultrasonic technique, the fine scaler tip with its ultrasonic vibration makes it ideal for efficient, rapid, precise and thorough removal of ingrained dirt and grit from contaminated facial wounds without injuring or sacrificing adjacent normal skin [3]. Therefore, ultrasonic debridement is the primary choice in emergency management of these exposures.

1.2. *Chitosan-based biogel*

Chitosan has been widely used in wound healing, including burn wounds. Chitosan-based biogel could accelerate wound closure and promote re-epithelialisation of burn wounds, which could result in the reduction of collagen deposition and thus prevent severe scar formation [4].

1.3. *Sterile polyethylene film*

In 1962, Winter studied the effects of keeping the wound surface moist in the skin of the young domestic pig. He found that when the wounds were kept moist under cover of a relatively inert and impermeable film, epithelization of the denuded surfaced is about twice as rapid as on wounds exposed to the air [5]. In 1963, Hinman reported parallel studies performed in healthy adult male volunteers. The experimental wound occluded with sterile polyethylene film while the control wound was left exposed to the air [6]. Based on studies by Winter and Hinman, we choose a sterile polyethylene film to create a paradigm for the evolution of moist occluded burn therapy in clinical trials.

1.4. *Systemic antibiotics and analgesics*

Systemic antibiotics (third generation cephalosporin) were prescribed and the patient was closely monitored. To alleviate

the suffering of patients in treatment, analgesics could be appropriately applied.

1.5. *Sunscreen protection and anti-scarring agents*

The patients were advised to moisturize the area and to use sunscreen protection. To prevent severe scar formation, anti-scarring agents could be applied when necessary.

2. Conclusion

For the first time, by combining chitosan-based biogel with sterile polyethylene film, a paradigm was created for MMOBT in clinical trials. Our experiences indicated that MMOBT may be a superior therapy for severe thermal burns. The application of sterile polyethylene film is essential to the modification of MOBT. To further confirm the superiority of MMOBT, much more related studies are still urgently needed.

Conflicts of interest

None.

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REFERENCES

[1] Mabrouk A, Boughdadi NS, Hela HA, et al. Moist occlusive dressing (Aquacel(®) Ag) versus moist open dressing (MEBO(®)) in the management of partial-thickness facial burns: a comparative study in Ain Shams University. Burns 2012;38(3):396–403.
[2] Soltan Dallal MM, Safdari R, Emadi Koochak H, et al. A comparison between occlusive and exposure dressing in the management of burn wound. Burns 2016;42(3):578–82.
[3] Honardar S, Kordestani SS, Daliri M, et al. The effect of chitosan-based gel on second degree burn wounds. J Wound Care 2016;25(8):488–94.
[4] Cheng LH, Stewart J, Thompson M, et al. Ultrasonic debridement of contaminated facial wounds. Br J Oral Maxillofac Surg 2002;40(2):149–50.
[5] Winter GD. Formation of the scab and the rate of epithelization of superficial wounds in the skin of the young domestic pig. Nature 1962;193:293–4.
[6] Hinman CD, Maibach H. Effect of air exposure and occlusion on experimental human skin wound. Nature 1963;200:377–8.

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Letter to the Editor

Toxic epidermal necrolysis therapeutic standardization: A holistic approach

Dear Sir,

We have carefully reviewed the publication "Care in patients with epidermal necrolysis in burn units. A nursing perspective" [1]. First, thank the authors for the research work carried out.

We would like to add that, from our perspective as facultatives of the Polytechnic University Hospital La Fe, we completely agree on the need to establish international guidelines that globally standardize the care for patients with TEN, focusing on certain aspects, such as the indications of fluid therapy and systemic treatment, aspects which need a higher level of evidence for clinical indication.

In our Burn Care Unit, the approach to this disease has undergone a noticeable change in a short period of time, mainly due to the greater influx of patients with this disease compared to previous years. This fact has led to progressive changes in initial management, such as direct interconsultation to Clinical Ophthalmology section of all patients –with or without ocular symptomatology-, initial application of silver foam dressings or antiseptic mouth washes. All of them are aspects that were not carried out in our unit during the period in which our staff was interviewed, and which have been progressively introduced.

We firmly believe that the approach of toxic epidermal necrolyisis should be done from specialized Burn Care Units, and reach an agreement for a standardized treatment of these. Finally, we want to encourage the authors to conduct a second interview with these units, with the aim of analyzing the improvements in the management of this pathology.

Best regards.

Declarations of interest

The authors declare not to have any conflicts of interest.