- Cost and availability, mentioned by the authors as practical "problems" are different between the two preservation techniques. In fact, in the referenced article [4], which I published in 2011, I made a specific distinction between glycerolization and cryopreservation with regard to cost and availability, both in favor of the glycerolization technique, an observation that was also supported by an article by Janezic in burns [5]. Also worth mentioning is that most alternatives for allografts, particularly the different types of dermal matrices, are generally very expensive as well.
- Allografts play a role in the sandwich technique [6–8]. While I do realize that this was not the topic of the research, it perhaps should have been mentioned in the discussion part of the article.

I am not disputing the results of the research project and it is doubtful that an analysis of the use of glycerolized cadaver skin in the same indications would have shown different clinical outcomes, but a somewhat broader scope could have added value to the article.

Conflict of interest

The author declares "No conflict of interest".

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Letter to the Editor

Reply: The impact of skin allograft on inpatient outcomes in the treatment of major burns 20–50% total body surface area — A propensity score matched analysis using the nationwide inpatient sample

Dear Editor,

We appreciate the letter by Hermans in response to the recent analysis of allograft in the acute treatment of major burns 20–50% total body surface area (TBSA) [1]. He raises many excellent points, which deserve further discussion.

In the current analysis [1], the potential ill effects of alloimmunization following the use of skin allograft were discussed. Though little research has investigated this question, clinical evidence suggests that engraftment of skin allograft may lead to the formation of alloantibodies [2]. While this certainly could impact burn survivors requiring future hematopoietic, solid organ, or vascularized composite allotransplantation, the long-term effects of such alloantibodies are unknown. Hermans suggests that the immunogenicity of glycerolized allograft is significantly less than cryopreserved allograft based on his investigations [3,4]. Furthermore, Hermans reminds us that glycerolized skin allograft is less expensive, given the lower cost of processing. In the US, the majority of skin allograft is cryopreserved, in contrast to Europe where most of the product is glycerolized [5]. The differences in clinical outcomes between these two products should be investigated if the combined clinical and economic profile of glycerolized products is better.

Hermans also discusses the *sandwich* technique [6] as another use of skin allograft that was not specifically discussed in the manuscript. While skin allograft is primarily utilized by most burn surgeons as an intermediate, temporary coverage option for freshly excised burn wounds, the sandwich technique uses skin allograft as a temporary coverage of widely meshed autograft. When widely meshed autografts (3:1 and greater) are used to close large wounds, the open interstices could potentially present opportunity for infection and insensible fluid losses. In the current analysis, the simultaneous use of allograft and autograft was not investigated. Furthermore the database utilized for this research does not specify whether the allograft was used as a *sandwich* on top of autograft or whether it was placed directly on the wound bed.

As our field advances and technology improves, it is important that we take the time to reevaluate our standards of care. The use of allograft in burns seems to have evolved. The product was initially used in cases whereby %TBSA of excised tissue was in excess of donor skin, thereby acting as a bridge until donor sites healed [7]. More recently, skin allograft is used in smaller burns, possibly to stage the procedure and to ensure a more "prepared" wound bed for skin grafting. However, there are no clear indications or guidelines regarding this technique. The use of allograft results in a prolonged hospital stay and higher overall treatment cost. Thus if the main indication for allograft placement is priming a wound bed or to ensure wound

bed viability, studies should be performed to ensure that allograft skin truly is the best way to prepare a wound bed for grafting. Possibly, alternative treatments are superior, for example negative pressure wound therapy (NPWT) [8]. Future studies addressing this topic should evaluate the clinical efficacy, risk-benefits, and cost effectiveness of skin allograft use for various sizes of burn injury.

Conflict of interest

No conflicts of interest related to this manuscript.

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Letter to the Editor

Volunteering for burns moulage as a medical student

Dear Editor,

In the United Kingdom, there are approximately 175,000 emergency department admissions due to burns each year [1]. However, two recent studies examining the state of burns education at UK medical school found that British students are ill-equipped by their curriculum to manage burn injuries. Lemon et al. found that 33% of students questioned had never received any teaching on burns and Zinchenko et al. found that 70% of respondents had never received any education on how to manage burn injuries [2,3]. Moreover, with burns care in the UK having become more centralised there are medical students who will never have a clinical placement at a burns unit prior to graduation and thus are unlikely to have the opportunity to observe the management of severe burn injuries [1].

The author has recently volunteered to play the role of a burns casualty in the moulage section of the Emergency Management of Severe Burns (EMSB) course run by the British Burn's Association. This course teaches doctors, nurses and other healthcare professionals the core principles of the acute management of severe burns injuries [4]. This one-day course along with Advanced Trauma and Life Support (ATLS) are the two main postgraduate courses in the UK that teach candidates how to manage burns.

For the practical exam that candidates must pass to be considered EMSB certified they must manage a burns victim played by a volunteer in authentic moulage make-up representing the appearance of a variety of burns injuries. This chance to act as a burns casualty has been an invaluable opportunity to learn about the different appearance of burns depending on their depth and their cause. It also teaches one to consider visual clues to associated injuries, such as inhalation injuries or circumferential limb burns possibly requiring an escharotomy. Moreover, observing candidates systematically go through the management of a burns victim has given the author a wealth of exposure to immediate burns management that would be hard to come by without completing a dedicated burns placement.

In conclusion, the author would highly recommend volunteering on an EMSB course to any medical student interested in the management of burns, whether that be in the context of plastic surgery, emergency medicine, or to supplement their medical school education. It is the author's opinion, that volunteering on this course would be especially valuable to medical student prior to embarking on a medical elective, or student selected module, in burns.

Conflicts of interest

The author confirm that there are no known conflicts of interest.