Response to Letter: The Ongoing Challenges: Comments on “Clinical Outcomes of Negative-Pressure Wound Therapy with Instillation without Commercial Devices in the Treatment of Complex Wounds”

Jiwon Shin¹, Yeongseo Kim¹, Suhyang Park¹, Chanwoo Kang¹, Ho Yoon Jeong², Joo Hyoung Kim²,³

¹Pusan National University School of Medicine, Yangsan, Korea
²Department of Plastic and Reconstructive Surgery, Biomedical Research Institute & Pusan National University Hospital, Busan, Korea
³Department of Plastic and Reconstructive Surgery, Pusan National University School of Medicine, Yangsan, Korea

In Reply

We would like to thank the authors for the well-referenced comments on this paper [1]. Based on our experience of using non-commercial-device negative-pressure wound therapy with instillation (NPWTi), we are in the process of developing an automated, controlled, commercial NPWTi device together with a medical device manufacturer, and are currently conducting animal experiments using a prototype.

Following are the answers to your questions for case 2 [1,2]: as you know, it is difficult to guess the state of wounds based solely on the external appearance. Therefore, debridement was performed not only to clean the wound, but also to determine the extent of the infection. The middle one-third of the wound was affected to the deep fascia layer, consistent with the definition of deep surgical site infection. We used an intravenous extension line for our instillation system, which can be placed in deep, narrow wounds like this case. The wound was irrigated with NPWTi for 4 weeks, and the infection resolved after 11 days without additional surgical debridement. After the infection was controlled, a local advancement flap was done for reconstruction of the soft tissue defect after debridement. Secondary intention healing can be achieved through the prolonged use of NPWTi, but surgical reconstruction was conducted to overcome the disadvantage of our NPWTi—it requires hospitalization of the patient. We used a 1% povidone-iodine solution routinely for irrigation in our NPWTi, with no allergic reaction in any of the cases. But, all antiseptics can cause side effects including allergic reactions, so careful observation is required when using such solutions for instillation.

We strongly agree with your view that it is difficult to organize well-designed clinical trials investigating the effectiveness of NPWTi due to wound inhomogeneity and pathogen diversity. We are grateful for the opportunity to discuss more about this sub-
ject. We hope to continue discussions on the reliability of NPWTi in the near future.

Conflict of interest

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ORCID iDs

Jiwon Shin  https://orcid.org/0009-0001-4526-1883
Yeongseo Kim  https://orcid.org/0009-0000-3881-952X
Suhyang Park  https://orcid.org/0009-0008-8770-5594
Chanwoo Kang  https://orcid.org/0009-0001-1477-6163
Ho Yoon Jeong  https://orcid.org/0000-0003-1837-9146
Joo Hyoung Kim  https://orcid.org/0000-0002-4893-3761

References