**Effectiveness of biofilm-based wound care system on wound healing in chronic wounds**

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Background

A biofilm plays a crucial role in delaying wound healing. Wound blotting was recently developed to visualize biofilm noninvasively and quickly, and ultrasonic debridement is available for biofilm removal. The purpose of this study was to investigate the efficacy of “biofilm-based wound care system (BWCS),” a combination of wound blotting and ultrasonic debridement, for promoting wound healing.

Methods

The retrospective cohort study was conducted to examine the effectiveness of BWCS for healing of chronic wounds. The proportions of wound healing between wounds treated with BWCS and those with standard care in the home-visiting clinic were compared by Kaplan-Meier curve, and the Cox proportional hazard modeling was used to assess the effect of BWCS on wound healing.

Results

Sixty-four wounds in 52 patients as the control group and 16 wounds in 13 patients as the BWCS group were included for the analysis. The proportion of wound healing within 90 days was significantly higher in wounds treated with BWCS than in those treated with standard care (p=0.001). The adjusted hazard ratio of BWCS for wound healing was 4.5 (95% confidence interval, 1.3–15.0; p=0.015).

Conclusions

BWCS can be a promising therapeutic strategy for healing in chronic wounds.