

How standardization with a pure hypochlorous acid (pHA) based cleanser looks in real life

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Introduction

The use of a pHA based cleanser in wound bed preparation and biofilm/necrotic tissue removal is not well accepted despite emerging evidence based studies. In our institution, use of the pHA based cleanser started tentatively in the outpatient wound clinic. Remarkable clinical results there prompted use in the 150-bed inpatient hospital for all wound cleansing approximately 3 months post inpatient introduction. Prior to this, all wounds were being cleansed with a variety of agents, including saline, betadine, and hibiclens.

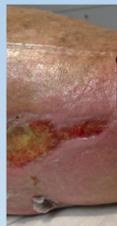
Methods

An average day in October 2022 was chosen to take a census of all inpatients with wounds that were being cleansed with the pHA cleanser. On that day, 18 inpatients were being treated with the cleanser. Each patient identified was followed through discharge, and two cases are presented here. As a CWON, half a day a week is devoted to the outpatient wound and ostomy clinic as well. The same data was collected on a single day in the clinic with weekly reassessment occurring for 30 days. Five of the eleven outpatients were utilizing the cleanser, and two cases are presented here.

Outpatient Case Study 1

A 45 y/o male initially presented in May 2022 with ulcerations to bilateral lower extremities present since April 2022. He had been applying mupirocin ointment daily and was on Bactrim DS from his PCP. Initial wound measurements were 6x3.3x1cm on 5/20/22. Initially treated with cadexomer iodine and compression. pHA soaks for 5 minutes were initiated on 7/22/22 prior to application of dressing and compression.

- 10/7/22: wound measured 5.4x1.9x0.3cm
- 10/28/22: wound measured 5x1.7x0.2cm



Outpatient Case Study 2

A 68 y/o male initially presented in June 2022 with a stage 4 sacral wound that had been present since February 2022 s/p prolonged ICU admission due to septic left knee. Prior to presenting to the wound clinic, he had had 2 debridements and was using NPWT for 8 weeks. He was on vancomycin for C. diff infection and he smoked 1 ppd. Initial wound measurements were 5.5x3.5x4.2cm on 5/6/22. NPWT was utilized for another 6 weeks then discontinued due to lack of progress. pHA soaks were initiated on 6/17 for 10 minutes prior to application of a collagen matrix dressing with ORC and silver.

- 10/7/22: wound measured 2.1x0.3x0.4cm
- 10/28/22: wound measured 1.8x0.3x0.4cm



Inpatient Case Study 2

A 60 y/o male presented with 1 week history of partially scabbed ulcerations to bilateral lower extremities. He had been applying calamine lotion to entire lower extremity, including ulcers, at home. He had a history of hypertension, Type 2 diabetes, hyperlipidemia, coronary artery disease, lymphedema, and morbid obesity. pHA soaks were applied daily for 10 minutes starting on 10/24/22. Collagen matrix dressing with ORC and silver followed by 3-layer compression wrap was applied on 10/28/22 prior to discharge home.

- 10/24/22: wound measured 18x12cm.
- 10/28/22: wound measured 14x10cm



Results

Use of a pure hypochlorous acid based cleanser produced significant results and positive outcomes in all patient's wounds. On average, the wound surface area decreased by 20% after just a few uses of the cleanser. All patient's wounds went on to resolve with the exception of Outpatient #1, who is still in treatment at this time.

Discussion

The variety of wounds detailed here represents the meaning of the word standardization in the use of a pure hypochlorous acid based cleanser. The wide use on a variety of patients constitutes the cleanser as an economic and effective standard of care for wound cleansing in the inpatient and outpatient setting.

References

1. Armstrong, D., Bates-Jensen, B., Bohn, G., Kavros, S., Kirsner, R., Snyder, R., & Tettelbach, W. (2015). Expert recommendations for the use of hypochlorous solution: science and clinical application. *Wounds: a Compendium of Clinical Research and Practice*, 2-19.
2. Hiebert, J. M., & Robson, M. C. (2016). The immediate and delayed post-debridement effects on tissue bacterial wound counts of hypochlorous acid versus saline irrigation in chronic wounds. *Eplasty*.
3. Niezgoda, J. A., & Sordi, P. J. (2010). Evaluation of Vashe wound therapy in the clinical management of patients with chronic wounds. *Advances in Skin & Wound Care*, 352-7.
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Inpatient Case Study 1

A 68 y/o female presented with a right foot post-surgical wound, amputation of 2nd and 3rd toes related to osteomyelitis. Negative pressure wound therapy had been in use for 3 weeks and she was receiving IV vancomycin at home in addition to hyperbaric oxygen treatments outpatient. She had a history of Type 2 diabetes, hypertension, and neuropathy. While inpatient, pHA soaks were utilized 5 minutes prior to dressing change and reapplication of NPWT.

- 10/24/22: wound measured 5x3x1.5cm
- 10/26/22: wound measured 4.8x2.6x1.3cm



Case Study	Initial Surface Area	Ending Surface Area	Percentage Decrease
Outpt. #1	0.63cm ²	0.54cm ²	14.3%
Outpt. #2	10.26cm ²	8.5cm ²	17.2%
Inpt. #1	15cm ²	12.48cm ²	16.8%
Inpt. #2	216cm ²	140cm ²	35.2%