

A Case Review Series of Negative Pressure Wound Therapy with Instillation and Dwell Time (NPWTi-d) with Hypochlorous Acid (HOCl) Versus Sodium Hypochlorite (NaOCl) or 0.9% Saline Instillation in Complex, Infected Wounds

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Message:

Medically complex wounds with infection that need thoughtful management can show measurable progress, with potentially large health economic benefits, when Vashe® is used in combination with NPWTi-d. A study shows that there is major reduction in hospital stays, numbers of required OR visits, and days to wound closure.

Methods:

This is an observational case series of medically complex patients with multiple comorbidities and grossly infected wounds with multidrug resistant pathogens. Inclusion criterion was met by complex wounds that appeared grossly infected on clinical examination. Diagnoses included serious wounds such as necrotizing soft tissue infections, necrotizing fasciitis, polymicrobial abscesses resulting in compartment syndrome, stage IV infected sacral ulcer and complex abdominal or extremity multidrug resistant abscesses. The primary endpoints of the study on 12 patients were (1) length of hospital stay (2) number of procedures requiring the operating room and (3) days to closure of wound. A NPWTi-d regime of 10 minutes of dwell time every 4 hours was employed. Necrotic tissue, if any, was debrided prior to NPWTi-d. The researchers compared the results to their previous experience of NPWTi-d in which NaOCl solution* or 0.9% normal saline was used as the irrigant.

Results:

Five of the twelve patients studied were able to be closed either by delayed primary or secondary intention. The remaining seven patients demonstrated remarkable improvements. Mean operating room visits decreased from 7 per patient with traditional NaOCl solution or 0.9% saline to 3.2 visits utilizing the Vashe. Days to closure improved from 37 to 30 days. Mean length of stay decreased from 25 to 14 days.

Solution	Mean Operating Room Visits	Days to Closure	Mean Length of Stay
Sodium hypochlorite (NaOCl)/Saline	7	37	25
Vashe [®] Wound Solution	3.2	30	14

Conclusion:

The researcher's experience with using HOCl irrigation therapy in the management of grossly infected complex wounds showed promising results with a decrease in hospital length of stay, operative visits, and days to closure. The observed results have major health economic implications.



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