

Limb Salvage Using Hypochlorous Acid Treatment in Venous Leg Ulcer Case

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ABSTRACT

Conditions such as Venous Leg Ulcers can be difficult to achieve long-term healing in due to frequently comorbid atherosclerosis and mobility difficulties causing reduced blood flow. The increased length of healing can be further complicated by biofilm formation, so adjunctive therapies such as cleaning sprays may prove beneficial in certain patients. Hypochlorous acid has been used in wound care particularly due to its broad-spectrum antimicrobial activity and minimal risk of resistance development¹.

Our objective was to assess the antimicrobial efficacy of a commercial Hypochlorous Acid Spray (**Spectricept Skin and Wound Cleanser™**) provided by **Spectrum Antimicrobials** by monitoring the healing process in a patient with a refractory wound previously unsuccessfully treated with the current standard of care wound treatments. No biofilm formation occurred throughout the treatment process at the site observed. Due to the successful avoidance of common occurrence, the antimicrobial efficacy of the cleanser should be further studied using clinical trials.

INTRODUCTION

Venous Leg Ulcers can be caused by a variety of underlying diseases such as Peripheral Artery Disease and Chronic Venous Insufficiency¹. Venous ulcers occur due to reduced flow of deoxygenated blood back up towards the heart from the lower extremities, leading to increased pressure in the veins and damaged skin tissue. Combined with Peripheral Artery Disease (PAD), this can lead to limb ischemia and heighten amputation risk.

Peripheral Artery Disease is the cause of approximately 51-93% of all lower limb amputations in the world². Comorbid Diabetes Mellitus is common and further increases risk³. A term denoting the combination of PAD and DM is Chronic limb-threatening ischemia (CLTI). CLTI can lead to lower extremity amputation in more than 20% of patients and affects over 2 million people in the United States³.

Chronic wounds such as venous ulcers can be further complicated due to infection. In cases where biofilm formation has occurred, systemic antibiotic therapy is often insufficient to adequately treat the infection. Use of antibiotic therapy leads to the possibility of resistant organisms developing, leading to limited avenues of antibiotic coverage. Hypochlorous acid (HOCl) has been shown to possess antimicrobial activity⁴, however, further clinical testing must be done to determine the efficacy of Spectricept Skin and Wound Cleanser™ for antimicrobial properties.

PATIENT HISTORY

Our patient is 71F with a long-standing history of Peripheral Artery Disease. She had a Tib-Fem Bypass in April 2025 complicated by wound dehiscence and abscess formation. The patient's daughter reported that she developed venous leg ulcers in May 2025 after an extensive history of multiple stent placements as well as revisions of stents after re-occlusion. The outlying facility recommended amputation of the left lower extremity above the knee due to non-healing wounds and complete occlusion of the left posterior tibial, dorsalis pedis, and left popliteal arteries. The patient decided to seek a second opinion at a different facility. MRI detected an abscess sized 2.7 x 4.3 x 1.1 cm but no evidence of osteomyelitis. At the second facility the Interventional Cardiologist successfully revascularized one vessel proximally but was unable to open more distal vessels in the foot.

Her abscesses required an incision and drainage on May 17, 2025 with several large post-surgical wounds and wound vac placement. She came to the Wound Care Treatment Center on referral for Hyperbaric Oxygen Therapy in June 2025 with Spectricept Skin and Wound Cleanser™ already part of her treatment plan.

ANATOMY

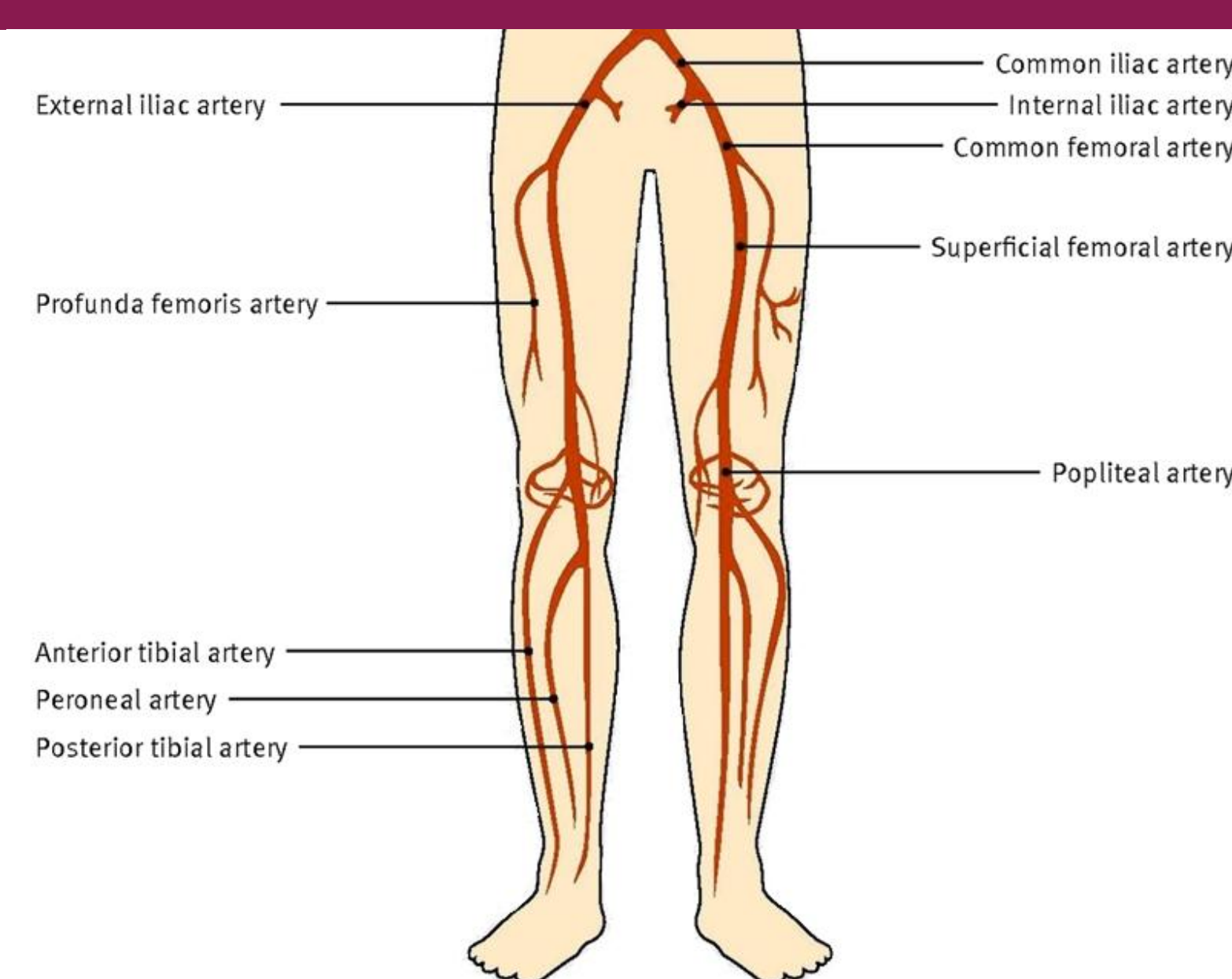


Figure 1. Diagram of Lower extremity arteries⁵

THERAPY NOTES

7-21-2025: wound debrided w/ 15 blade and rongeur by Dr. T in clinic. Post debridement the LLE proximal wound was 14.2 x 8.4 x 0.9 cm and LLE distal wound was 11.7 x 15.4 x 1.6 cm.

9-2-25: Wound vacuum order discharged by physician.

9-22-25: Dr. Thibodeaux: "Patient presents for follow-up today with no new complaints on examination her wounds show improved granulation tissue formation with minimal slough minimal drainage no evidence of infection. We will continue the use of topical hypochlorous acid with a maintenance debridement dressing protocol and follow-up as scheduled"

11-24-25: Dr. Thibodeaux: "There was no signs of cellulitis periwound infections or complications at any site. There was good granulation noted. The patient has no systemic signs of infection."

2-2-25: Dr. Thibodeaux: "Her left leg wounds are all healed with the exception of the ankle wound which is much smaller."

2-23-26: Dr. Thibodeaux: "There is no evidence of infection no periwound complication we will continue her current treatment plan follow-up as scheduled."

3-2-26: Dr. Thibodeaux: "-continue Spectricept and collagen with compression no evidence of infection no evidence of any periwound complications. Her draining wound within the calf is almost healed she has no complaints regarding this wound."

RESULTS

	Length	Width	Depth	Volume	% Reduction w/I 2 months
7-21-2025	14.2	8.4	0.9	107.352	0%
9-2-2025 (wound vac d/c)	10.9	4.4	0.4	19.184	0.8
9-22-2025	9.5	3	0.4	11.4	0.9
11-24-2025	6.4	0.5	0.2	0.64	0.9
2-2-2025	0	0	0	0	100%

PROGRESSION OF THERAPY



Figure 2. Initial Presentation



Figure 3. After first clinic debridement with rongeur, 7-21-25



Figure 4. Two months after debridement, 9-22-25



Figure 5. Resolution of wound with new lesion, 2-9-25



Figure 6. Update, 2-23-25



Figure 7. Recent resolution, 3-2-25

ACKNOWLEDGEMENTS & REFERENCES

Topical hypochlorous acid spray, **Spectricept Skin and Wound Cleanser™**, was provided by Spectrum Antimicrobials.

Thank you to Dr. Kerry Thibodeaux, MD, FACS, CWSP, FACCWS, FAPWCA, Marcus Speyrer, RN, CWS, FACCWS, DAPWCA, and nursing staff from the Wound Treatment Center at Opelousas General Hospital for their guidance and contributions to the case report.

