



Treatment of Non-Healing, Unclassified Ulcerations of the Lower Extremity Utilizing Chorion-Free Human Amniotic Allograft: A Case Report

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Introduction

54-year-old male patient with well-controlled Diabetes Mellitus Type 2 presented to our clinic with multiple left foot ulcerations. Approximately 1 month prior he was admitted to ICU at a civilian hospital for severe SARS-CoV-2 respiratory illness where he was intubated for 13 days. Upon recovery, patient noted wounds to the left foot. Hospital records were reviewed and did not specify the position of the patient during intubation or whether protocol was taken to prevent and/or monitor for pressure injuries. Due to the nature and timing of the wounds, we could not exclude lower extremity cutaneous manifestations secondary to SARS-CoV-2 (more commonly known as “Covid Toes”) from our list of possible etiologies. The wounds were considered unclassified.

Human Amniotic Allograft (HAA) is a rich source of biological factors which have shown to be clinically effective in wound healing. HAAs provide amino acids, growth factors, and other components which have proven to facilitate cellular migration and promote wound repair.³ Studies reveal reliable evidence of healing time reduction over conventional wound care methods.¹⁻²

Methods

The patient was seen weekly for wound debridement where wound dimensions were recorded and tracked. Amniotic allografts were applied throughout treatment and the wounds were protected with clean dressings and a surgical shoe. Patient was compliant with treatment.

- Initial wound measurements (in cm): distal hallux (2.5 x 3.0 x unstageable), distal 5th digit (1.0 x 1.0 x 0.1), and dorsal foot (2.0 x 2.0 x 0.2).
- Noninvasive Vascular Studies:
Right Ankle Brachial Index: 1.42
Left Ankle Brachial Index: 1.45
Waveforms triphasic bilaterally



Figure 1. Initial presentation of wounds to left hallux, 5th digit, and dorsal foot.

Results

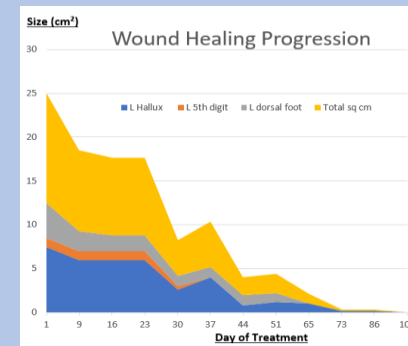


Figure 2. Healing progression of three wounds. Hallux wound treated with 11 applications of HAA, 100 days to full wound closure. On treatment day 73, we performed a debridement of the distal phalanx of the hallux which helped facilitate wound closure. 5th digit wound treated with 5 HAA applications, 37 days to full closure. Dorsal foot wound treated with 8 HAA applications, 65 days to full closure.



Figure 3. Day 100: complete wound healing.

Discussion

We offer several differential etiologies, including a phenomenon emerging from the COVID-19 pandemic, known as “COVID Toes.” This condition has a similar presentation to Chilblains dermatitis, in which cutaneous findings are thought to be related to peripheral constriction of capillaries in the hands and feet.¹ Other possible etiologies include pressure injury, microvascular disease, or diabetic foot ulceration. We conclude, however, that Human Amniotic Allograft is an acceptable and effective treatment modality in healing complicated ulcerations of the lower extremity.

References

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