Complete Closure of Chronic Ankle Ulcerations In the Presence of Lymphadema with Use of Adipose Stem Cell Injectable Allograft, A Case Report

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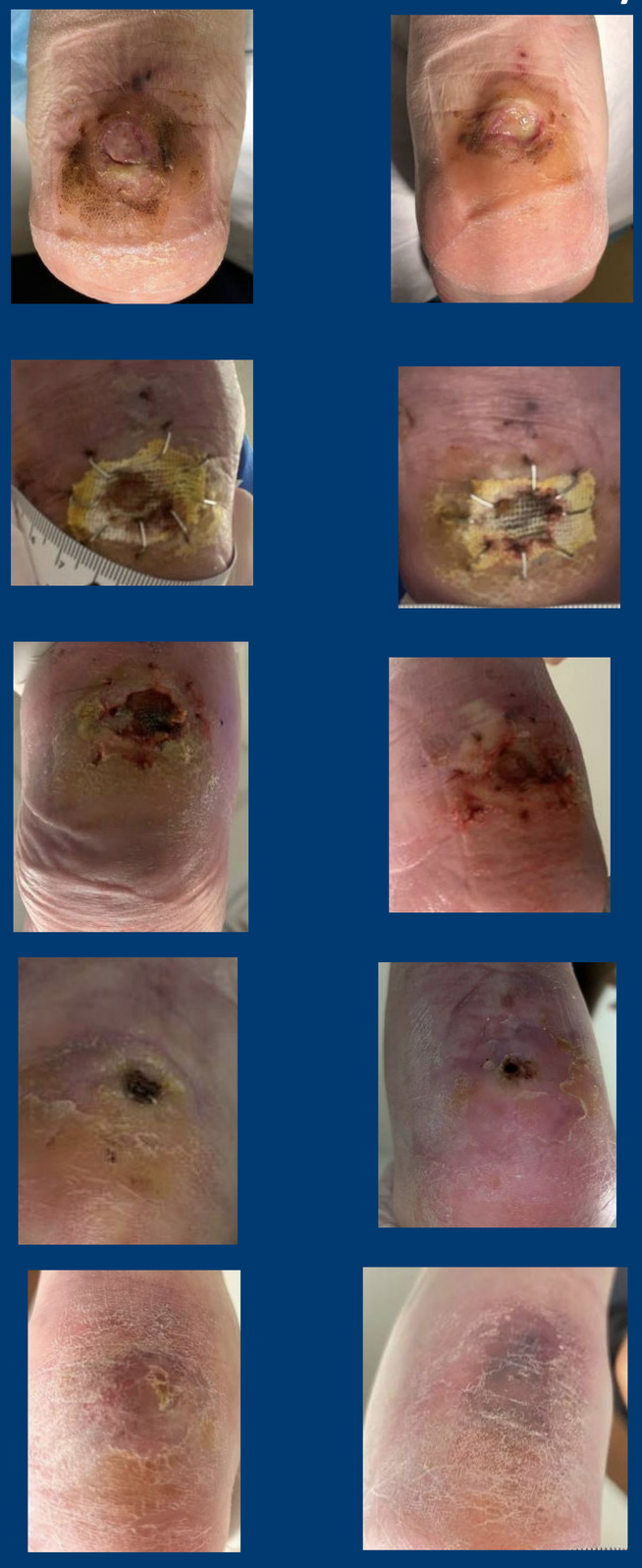
Aim

- This case report aims to evaluate the efficacy of adipose-derived stem cell injectable allografts in achieving complete wound closure of chronic bilateral posterior ankle ulcers in a paraplegic patient with lymphedema and fat pad atrophy, previously unresponsive to conventional wound care interventions.
- Chronic heel ulcers are frequently encountered in individuals with compromised mobility, such as paraplegic patients. The presence of lymphedema further exacerbates the challenges associated with wound healing due to compromised lymphatic drainage, persistent inflammation, and tissue degradation. These multifaceted complications significantly impede the effective management of chronic wounds.
- In this particular case, the patient presented with bilateral posterior heel ulcers that persisted for two years despite receiving standard treatments, including antimicrobial dressings, compression therapy, offloading devices, and bilayered wound matrices. The failure of these conventional modalities prompted the consideration of an advanced therapeutic approach utilizing adipose-derived stem cell injectable allografts. This report aims to explore the regenerative potential of this innovative treatment in promoting wound healing and addressing the underlying complications of lymphedema and fat pad atrophy.

Methods

- Previous attempts at healing included silvadene, debridement, several allograft applications, and compression bandage dressings, all which had failed.
- Closure achieved by wound bed preparation and application of adipose-derived stem cell injectable allograft which was injected under the wound and also applied to the wound bed, thereby promoting optimal healing conditions. Concurrently, lymphedema therapy was controlled with use of compression pumps and compression garments.

Case Study



Results

- The application of adipose stem cell allografts, in conjunction with wound bed preparation, resulted in the complete closure of the bilateral heel ulcers within nine months. Effective swelling control, achieved through compression pumps and compression garments, proved essential in maintaining the healing progression and preventing the recurrence of ulcers. There has been no recurrence of ulceration to date for over one year.

Conclusion

- This case illustrates the promising role of adipose stem cell injectable allografts in the management of complex chronic wounds, particularly in patients presenting with lymphedema and fat pad atrophy.
- The effective management of lymphedema through the utilization of compression pumps and garments were instrumental in controlling edema and preventing ulcer recurrence. This underscores the necessity of concurrently addressing both the healing of wounds and the management of edema in such complex cases.
- However, due to the inherent limitations associated with single-patient case studies, further research involving larger clinical trials is crucial to validate these findings and develop standardized treatment protocols.
- The integration of advanced wound care technologies, such as stem cell therapies, along with meticulous management of comorbid conditions such as lymphedema, has the potential to enhance healing outcomes and improve the quality of life for patients with comparably challenging chronic wounds.

References