

The Emerging Use of a Human Cellular Repair Matrix* in the Treatment of Chronic Wounds

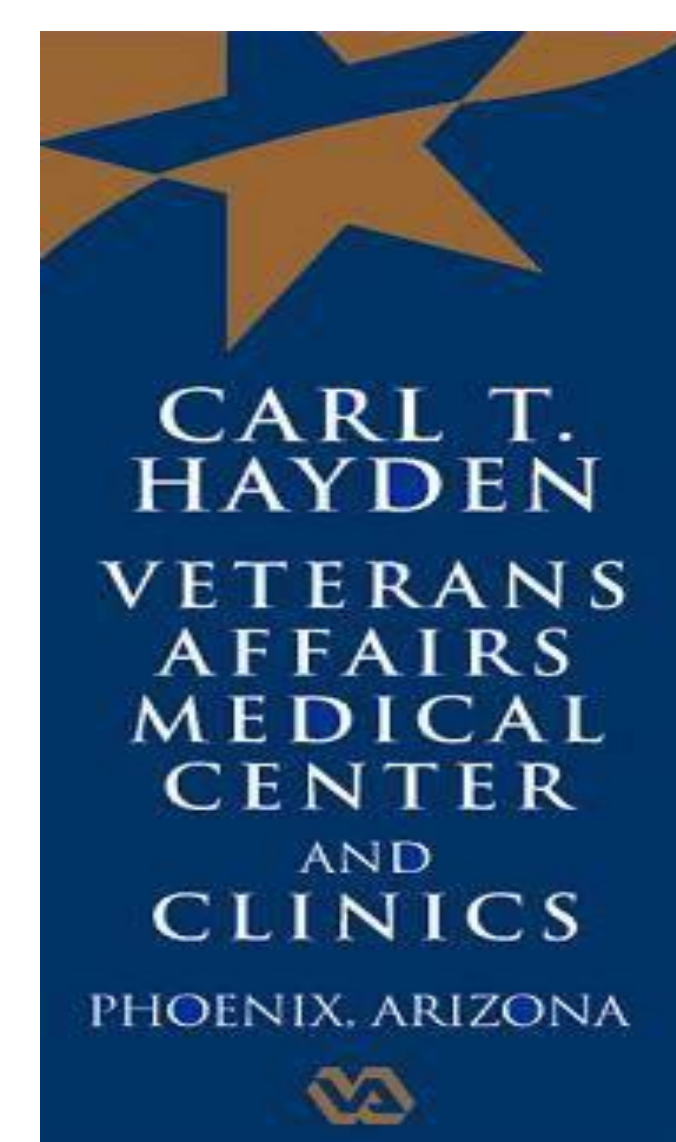
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Introduction

Close to 6 million people in the USA are affected by chronic wounds, and billions of dollars are spent annually for their treatment (1). Despite advances in chronic wound management over the past decades, many patients afflicted with chronic wounds fail to heal or their ulcers recur (1-3). There is emerging evidence that the use of a human cellular repair matrix containing epithelial cells, fibroblast, mesenchymal stem cells, growth factors and extracellular matrix may aid in chronic wound healing.

Methods

We present two cases where we used a human cellular repair matrix* in order to heal chronic wounds. Patients with refractory wounds were treated in our outpatient wound care clinic. Both patients received standard of care including local wound debridement and antibiotics when indicated. Patients were seen regularly in clinic for follow-up care. The treatment regimens were determined by the physicians based on each clinical case.



Patient #1

68 yo male with PMH of DM2, CLL, and HTN with a posterior heel wound with cellulitis and history of multiple I&Ds. Wound measured 5.4 x 3.5 x 0.6cm and was refractory to other treatments. Debridement took place 4 weeks prior to treatment of the wound. Patient received a total of 8 applications. Wound closure was achieved in 8 weeks.



Patient #2

56 yo DM man with history of a postoperative infection from a Keller Arthroplasty/Bunionectomy of Right 1st MTPJ. Pt was admitted with persistent leukocytosis and skin necrosis/ soft tissue infection with plantar abscess per MRI. Pt presented to our outpatient clinic 7 weeks s/p I&D.

On presentation, wound #1 on the right dorsum of foot measured 2.0 cm X 2.0 cm X 0.2 cm wound #2 on the plantar surface of the same foot measured 6.0 cm X .5.2 cm X 0.5 cm both remained resistant to conventional treatments. Patient received a total of 5 applications. Wound closure was achieved in less than 8 weeks.



Results

The two patients achieved complete re-epithelization of their wounds. There were no adverse events or safety concerns associated with application of the grafts. It is concluded that this method is an excellent therapeutic option for diabetic ulcers and wound dehiscence, allowing faster healing. Its great advantage is being a minimally invasive procedure that can be carried out in an outpatient setting.

Conclusions

The results show promising results for the use of a human MSC-containing skin substitute* in the treatment of refractory wounds and should be considered in patients with recalcitrant wounds who have failed conventional therapies. It is of importance to remember that even with the most advanced and sophisticated therapeutic approaches, proper wound care and adherence to basic principles remain critical.

References

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