Use of a High-Density ECM for the Management of Deep Diabetic Foot Ulcers: A Case Series

Daniel T. Ferreras (DPM, FAPWCA, AAWC) and Richard L. Crump (LPN); Carl Vinson VA Medical Center, Dublin, Georgia, USA

INTRODUCTION

Diabetic foot ulcers (DFUs) are chronic non-healing wounds and are estimated to cost the health system $5-13 billion per year[1]. Advanced technologies that reverse the wound chronicity at an early stage can save money, lives and improve the quality of life for patients. An ovine extracellular matrix scaffold (HDEC®) provides over 151 native ECM proteins including collagen, laminin, glycosaminoglycans and other components that help to control the inflammatory response and then support the deposition and organization of new tissue[2,3]. A new laminated ovECM technology has been developed that provides a higher class of important healing molecules. Because the high-density ECM (“HDEC®”) is fabricated with increased volume, it can be utilized in deep wounds to restore protease balance, as well as serve as a scaffold to build granulation tissue and close wounds.

METHODS

All wounds were debried during the initial consultation, then as needed during the study. Initial wound dimensions were recorded. HDEC® was cut to size as needed and rehydrated prior to application. The wounds were covered with a non-adherent petrolatum dressing, gauze bandage and compression bandage. Off-loading was utilized on a case-by-case basis. Wounds were assessed weekly, measured, imaged and HDEC® reapplied.

RESULTS

A total of 4 DFU wounds (n=4) were enrolled in the study, with an average wound size of 5 cm² (range 0.8 to 8.62 cm²), and wound depth ranged from 0.2 to 1.0 cm. All wounds were debried and managed with weekly applications of HDEC®. At four weeks, 75% of the wounds were classified as “responders” having reduced in wound area by >50%. By 12 weeks, 75% of wounds had healed, and the average wound size was 10% (0% to 38%). All wounds healed during the course of the study (15 weeks), with the average healing time was 10 weeks (6 to 15). This preliminary study supports use of HDEC® for the closure of DFU’s and supports further clinical studies using this product.

REFERENCES AND DISCLOSURES