Confirmation of Efficacy and Effectiveness for Treatment of Diabetic Foot Ulcers with EpiFix

By William Tettelbach, MD

A recent prospective multicenter randomized controlled trial focusing on the use of **EpiFix** in the treatment of diabetic foot ulcers (DFUs) was recently published in the peer-reviewed *International Wound Journal.*[1]

EpiFix is a human tissue matrix allograft composed of dehydrated human amnion chorion membrane (dHACM). Published, peer-reviewed scientific work indicates that MiMedx dHACM retains an assorted array of regulatory proteins comprised of essential growth factors, chemokines and cytokines, which are regulators in inflammation, cell migration and proliferation as well as angiogenesis.[2,3,4,5]

Clinical evidence supporting the use of dHACM includes the article titled "A Confirmatory Study on the Efficacy of Dehydrated Human Amnion/Chorion Membrane dHACM Allograft in the Management of Diabetic Foot Ulcers: A Prospective, Multicenter, Randomized, Controlled Study of 110 Patients from 14 Wound Clinics," authored by William Tettelbach, MD; Shawn Cazzell, DPM; Alexander M. Reyzelman, DPM; Felix Sigal, DPM; Joseph M Caporusso, DPM; and Patrick S. Agnew, DPM.

The study objective was to ascertain the safety and effectiveness of EpiFix compared to standard of care (SOC) in the treatment of chronic DFUs. SOC was defined as appropriate sharp debridement when indicated, a simple alginate dressing, covered by an absorbent non-adhesive hydropolymer secondary dressing and gauze alone. Pressure relief with an offloading boot was also utilized when required. The primary endpoint was the percentage of complete wound closures over a 12-week period. Data from 110 patients meeting study inclusion and exclusion criteria were evaluated in the Intent-to-Treat (ITT) cohort while a total of 98 patients who completed the study comprised the Per-Protocol (PP) cohort.

ITT analysis necessitates patients to be incorporated even if they deviated from the protocol or did not complete the study. In comparison, in a PP analysis, only patients who completed the entire clinical trial according to the protocol are included in the final analysis.

In the ITT cohort, 70% of the patients who received weekly EpiFix had complete healing by 12 weeks versus 50% of patients only receiving weekly SOC (EpiFix 70% vs. SOC 50%, $p = 0.0338$). For patients completing the study, PP cohort, 81% of those who received weekly EpiFix treatments attained complete healing by 12 weeks. In contrast, 55% of patients had complete healing in 12 weeks after receiving weekly SOC alone (EpiFix + SOC 81% vs. SOC 55%, $p = 0.0093$).

Adjusting for co-variates associated with healing within the ITT cohort, Cox regression analysis demonstrated study patients receiving EpiFix were more than twice as likely to achieve complete closure within 12 weeks as those not receiving EpiFix (HR: 2.15, 95% confidence interval 1.30-3.57, $p = 0.003$). A sub-analysis adjudicating pre and post debridement by three wound care physicians blinded to the treatment cohort found that patients in the PP population were 3x more likely to heal at 12 weeks with adequate debridement. ($p = 0.005$).

"In a heterogeneous patient population across the United States, healing rates with the use of dHACM were superior to those achieved with standard dressings alone, even when ITT data analysis, including non compliant subjects, was conducted. Reported healing rates within 12 weeks of 70% (ITT analysis) and 81% (PP analysis) remain superior to healing rates reported in comparable prospective studies of other advanced wound care products," the study remarks. "The results of this 110 patient, multicentre, randomised controlled study provide additional Level I evidence regarding the efficacy of dHACM and are useful to clinicians who are determining which advanced wound care product to choose when caring for their patients and for health care policymakers in both the United States and globally who are challenged to evaluate the benefits of available advanced wound care products compared with costs." Along with highlighting the efficacy and effectiveness of dHACM in closing chronic DFUs, the study also validates the clinical significance of adequate surgical debridement in the wound care treatment pathway. *Click here for more information.*

References:

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