GEM-3: Phase 3 Safety and Immunogenicity Results of Beremagene Geparpavec (B-VEC), an Investigational, Topical Gene Therapy for Dystrophic Epidermolysis Bullosa (DEB)

M. Peter Marinkovich,1 Mercedes E. Gonzalez,2 Shireen V. Guide,3 I. Sinem Bagci,4 Surya Chitra,6 Britanni Agostini,6 Hubert Chen,7 Trevor Parry,5 Suma Krishnan2
1Stanford University, Redwood City, CA; 2University of Miami, Miami, FL; 3Mission Dermatology Center, Children’s Hospital of Orange County, University of California, Irvine, Department of Dermatology, Rancho Santa Margarita, CA; 4CastleCreek Biotech, Inc., Philadelphia, PA

Introduction
- Dystrophic epidermolysis bullosa (DEB) is a serious, ultra-rare genetic blistering disease caused by mutations in COL7A1 gene that lead to skin fragility and wounds.1
- DEB affects >6000 people globally, including >3000 people in the United States and >3000 people in Europe.4 Patients with DEB require proactive management and care due to the increased risk of aggressive squamous cell carcinoma (SCC) and a wide range of other serious secondary complications, regardless of wound size or chronology.3
- Current management of DEB is limited to supportive care, such as ameliorating symptoms, palliative wound care, and managing secondary complications.3

Methods
- GEM-3 (NCT04916645) is a phase 3, multicenter, double-blind, placebo-controlled in-patient–randomized study evaluating the efficacy and safety of B-VEC in patients with DEB (Figure 2)
- Serum samples (screening or Week 1) and after (Week 26) B-VEC treatment were collected from patients and evaluated for anti-drug antibodies

Results
- The majority of adverse events (AEs) were mild or moderate; no AEs led to treatment discontinuation or death (Table 2)

Conclusions
- B-VEC treatment demonstrated a durable and statistically significant improvement in complete wound healing at 3 and 6 months compared with placebo.
- B-VEC was generally well tolerated, with no treatment-related discontinuations.
- No clinically significant immunologic reactions were reported during the study.
- Treatment response to B-VEC was not associated with anti-HSV-1 serostatus at baseline or with anti-COL7 serconversion.
- An ongoing open-label extension study (NCT04917874) is investigating the long-term efficacy and safety of B-VEC in patients with DEB, regardless of prior enrollment in GEM-3

References

Acknowledgments
This study was funded by Krystal Biotech, Inc.

Disclosures

Presented at the Society for Investigative Dermatology (SID) 2022 Annual Meeting, May 18-21, 2022, Portland, Oregon