Final Results of a Phase II Multicenter Trial of HF10, Oncolytic Virus Immunotherapy, and Ipilimumab Combination Treatment in Patients with Stage IIIB-IV Melanoma

Robert H. I. Andtbacka1, Merrick Ross2, Sanjiv S. Agarwala3, 4, Matthew Taylor5, John Vetto5, Rogerio I. Neves6, Adil Daud7, Hung T. Khong1, Richard S. Ungerleider8, Maki Tanaka9, Kenneth F. Grossmann1
1. Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, USA, 2. The University of Texas MD Anderson Cancer Center, Houston, TX, USA, 3. St. Luke’s Medical Center, Easton, PA, USA, 4. Temple University, Philadelphia, PA, USA, 5. Knight Cancer Institute, Oregon Health and Science University, Portland, OR, USA, 6. Penn State Hershey Cancer Institute, Hershey, PA, USA, 7. UC San Francisco, San Francisco, CA, USA, 8. Theradex Oncology, Princeton, NJ, USA, 9. Takara Bio. Inc, Shiga, Japan

Abstract:

Background:
HF10 is a bioselected replication-competent oncolytic virus derived from HSV-1. Herein, we report the safety and efficacy data of HF10 + ipilimumab (ipi) combination treatment in a Phase II trial in melanoma.

Methods:
Ipi naïve patients (pts) with Stage IIIB-IV unresectable melanoma were enrolled. HF10 injected into single or multiple tumors (1 x 107 TCID50/mL/dose, up to 5mL depending on tumor size and number); 4 injections qwk; then up to 15 injections q3wk. Ipi was administered intravenously (3 mg/kg), q3wk for 4 doses. Tumor responses assessed per irRC at 12, 18, 24, 36 and 48wks. Primary endpoint was Best Overall Response Rate (BORR) at 24wks.

Results:
Of 46 pts enrolled and treated: 59% men, median age 67 yrs (range 28 to 91); disease stage: 20% IIIB, 44% IIIC and 36% IV; 57% were treatment naïve and 43% had ≥1 prior cancer therapies. Most HF10-related AEs were ≤G2, similar to HF10 monotherapy. 37% had ≥G3 AEs, the majority due to ipi. HF10-related ≥G3 AEs (n=3) were embolism, lymphedema, diarrhea, hypoglycemia, and groin pain. Of 44 efficacy evaluable pts per irRC, BORR at 24wks was 41% (18% irCR, 23% irPR); disease stability rate was 68% (27% irSD). BORR at 48wks was 45% (18% irCR, 27% irPR). As of Apr 19, 2017, median PFS was 19 months and 1-year overall survival rate was 85%. HF10+ipi treatment resulted in a decrease in lesion size by ≥50% in 57% of injected lesions (N=148), 39% of never injected non-visceral lesions (N=41), and 14% of never injected visceral lesions (N=22). Complete resolution of lesions occurred in 30% of injected lesions and 20% of never injected non-visceral lesions.

Conclusion:
The combination HF10 and ipi treatment demonstrated a favorable benefit/risk profile and encouraging antitumor activity in both injected and non-injected lesions in pts with unresectable or metastatic melanoma.