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Authors

Wong, Eric T
Engelhard, Herbert H
Tran, David D
et al.

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Abstracts

ED-38. AN UPDATED ANALYSIS OF PATIENT REGISTRY DATA ON NOVOTTF-100A ALTERNATING ELECTRIC FIELDS THERAPY FOR RECURRENT GLIOBLASTOMA

Eric T. Wong[1], Herbert H. Engelhard[2], David D. Tran[3], Yvonne Kew[4], Maciej M. Mrugala[5], Robert Cavaliere[6], John L. Villano[7], Daniela A. Bota[8], Jeremy Rudnick[9], Ashley L. Sumrall[10], and Jay J. Zhu[11]; [1]Beth Israel Deaconess Medical Center, Boston, MA, USA; [2]University of Illinois in Chicago, Chicago, IL, USA; [3]Washington University Medical Center, St. Louis, MO, USA; [4]Houston Methodist Hospital, Houston, TX, USA; [5]University of Washington Medical Center, Seattle, WA, USA; [6]Ohio State University Medical Center, Columbus, OH, USA; [7]University of Kentucky, Lexington, KY, USA; [8]University of California in Irvine, Irvine, CA, USA; [9]Cedar Sinai Medical Center, Los Angeles, CA, USA; [10]Carolinas Health Care, Charlotte, NC, USA; [11]University of Texas Health Science Center in Houston, Houston, TX, USA

The NovoTTF-100A System is an anticancer treatment that emits alternating electric fields, at an intensity of 1 V/cm and a frequency of 200 kHz, which mimic the cytotoxic effect of chemotherapy by disrupting charged cytoplasmic proteins involved in the tightly orchestrated process of mitosis. The pivotal phase III trial demonstrated equivalent efficacy when the device was compared to conventional cytotoxic chemotherapies and bevacizumab, but without their systemic side effects. After the initial approval, patients were prescribed the device at 91 oncology centers in the United States from October 2011 to November 2013 and they provided consent to their protected health information for the patient registry. We then retrospectively analyzed their outcome and treatment-related adverse events. There were 147 women and 310 men ($n = 457$) and their median age was 55 (range 18-26) years. Over 70% of them had a Karnofsky performance score (KPS) of 70 or higher. Sixty percent were in their first or second recurrence while 27% were in their third or greater recurrence. More than 55% of patients had prior treatment with bevacizumab. The overall Kaplan-Meier median overall survival (OS) was 9.6 (95% confidence interval [CI] 8.0 to 13.7) months and the median treatment duration was 4.1 (95% CI 3.5 to 4.8) months. Favorable prognostic factors include $\geq 75\%$ treatment compliance (<0.0001), no prior bevacizumab usage ($p = 0.0001$), KPS of 90-100 ($p = 0.0070$) and first recurrence (0.0271). The most common device-related adverse events include skin reaction (24.3%), neurological disorders (10.4%), heat sensation (8.9%), electric sensation (7.7%) and headache (5.7%). Treatment with NovoTTF-100A System, as prescribed in the general clinical setting to patients with recurrent glioblastomas, offers favorable outcomes and no new unexpected toxicities. The data also indicate that treatment compliance, no prior bevacizumab usage, high KPS and application of the device at first recurrence are important prognostic factors.