

## **Treatment of CD20-directed chimeric antigen receptor-modified T cells in patients with relapsed or refractory B-cell non-Hodgkin lymphoma: A early phase IIa trial report**

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### **Abstract**

Patients with relapsed or refractory Non-Hodgkin lymphoma (NHL) have a dismal prognosis. Chimeric antigen receptor (CAR) modified T cells targeting CD20 have shown activity in phase I clinical trial for patients with advanced B-cell lymphomas. We performed a phase IIa trial to further assess the safety and efficacy of administering autologous anti-CD20 CAR T (CART-20) cells to patients with refractory or relapsed CD20+ B-cell lymphoma. Eleven patients including one with previous auto-HSCT and one primary cutaneous B-cell lymphomas were enrolled. Seven patients underwent cytoreductive chemotherapy for tumor debulking and lymphocyte depletion before T cell infusions. CART-20 cells were infused into patients at doses of 2.8 to 14.6×10<sup>6</sup> cells/kg. The overall objective response rate was 9 of 11 (81%), with 6 complete remissions (CR) and 3 partial remissions (PR); no severe toxicity was observed. The median PFS had lasted for more than 10 months with 1 maintaining for 25-month continuous CR. A significant inverse correlation between the molecule levels of the CAR gene and disease recurrence or progression was observed. Additionally, it was deserved to be addressed clinically that the lesions in some special sites such as in spleen and testicle were refractory to CART-20 treatment.

### **Biography**

Wei-Dong Han, MD, PhD, is the Director of Department of Molecular Immunology/Bio-therapeutic, Director of Department of Stem Cell and Tissue Regeneration in Chinese PLA General Hospital. He is a pioneer in the field of tumor immunotherapy, initially developed the clinical translation of chimeric antigen receptor T (CART) cells in China. He holds 10 projects of clinical trial, including 8 registered CART-based trials (CART19, CART20, CART30, CART33, CART-EGFR, CART-HER-2, and CART-138). The corresponding patents were also applied or obtained in China. In recent 10 years, he obtained 9 grants in China and published more than 80 papers in international journals.