Check for updates

ELSEVIER

Blood 142 (2023) 3482–3483

The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

704.CELLULAR IMMUNOTHERAPIES: EARLY PHASE AND INVESTIGATIONAL THERAPIES

Comparison of Efficacy and Side Effects of BTK Inhibitors for Different Duration As a Bridging Therapy before Anti-CD19-CAR T-Cell Therapy in Patients with R/R DLBCL

QI Deng[1], Jia Wang[2], Rui Cui, MD[3], Juan Mu[2], Xin Li[4], Qing Li[5], Lugui Qiu[6,7]

[1]Tianjin First Centre Hospital, TIANJIN, CHN
[2]Department of Hematology, Tianjin First Central Hospital, Tianjin, China
[3]Department of hematology, Tianjin First center hospital, Tianjin, China
[4]Tianjin First Centre Hospital, Tianjin, China
[5]Tianjin First Central Hospital, Tianjin, China
[6]State Key Laboratory of Experimental Hematology, National Clinical Research Center for Blood Diseases, Haihe Laboratory of Cell Ecosystem, Institute of Hematology& Blood Diseases Hospital, Chinese Academy of Medical Sciences & Peking Union Medical College, Tianjin, China
[7]Tianjin Institutes of Health Science, Tianjin, China

Background: BTK inhibitors (BTKi)was used for bridge therapy before anti-CD19-CAR T-cell therapy in patients with relapsed/refractory (R/R) diffuse large B-cell lymphoma (DLBCL) could improve the efficacy of anti-CD19-CAR T-cell therapy. However, the duration of BTKi bridging prior to anti-CD19-CAR T-cell therapy has not been clear.
Methods: This was a single-center, investigator-initiated clinical study involving patients with R/R DLBCL, which has at least one high risk factor for poor prognosis. All these R/R DLBCL patients received BTKi (Ibrutinib or Zanubrutinib) bridging therapy for one to four months before their anti-CD19-CAR T-cell therapy. After CAR-T cell infusion, BTKi therapy was continued. All patients were divided into two groups based on the duration of BTK inhibitors bridging therapy: ≥2 mons group and<2 mons group. We observed the overall response rate (ORR) and overall survival (OS), CAR-T cell amplification, expression of programmed cell death 1 (PD-1), cytokines and adverse events.
Results: In our study, all the thirty-one patients with R/R DLBCL had at least one high risk factor for poor prognosis before their anti-CD19-CAR T-cell therapy. Except for the primary lines, proportion of Richter transformation patients, there were no differences in age, sex, stage, International Prognostic Index scores between the ≥2 mons group and <2 mons group. Two patients failed to receive CAR-T cell infusion due to disease progression while receiving BTKi bridging therapy. Sixteen patients (55.2%) obtained CR, six patients (20.7%) obtained PR, six patients (20.7%) obtained SD and one patient (3.4%) obtained PD only. The ORR of this study was 75.9% (22/29). The median duration of BTKi bridging therapy in patients with ORR was 63 days, which was higher than that of in patients with SD or PD, which was 28 days. The peaks of CAR-T cells were higher in ≥2 mons group than that of in <2 mons group, higher in ≥2 mons+ Richter group than that of in <2 mons+ DLBCL group, but there was no difference of the peaks between the DLBCL group and Richter group. The ≥grade 2 of CRS was found in ten patients (71.61%) in ≥2 mons group, and only three patients (20.00%) in <2 mons group. The ≥grade 2 of CRS was found in five patients (35.71%) in DLBCL group, and eight patients (53.33%,) in Richter group. The ≥grade 2 of CRS was found in six patients (66.67%) in ≥2 mons+ Richter group, and only one patient (11.11%) in <2 mons+ DLBCL group. The results were similar for ICANS and CRS in our study. The ≥ grade 2 of neutropenia, anemia and thrombocytopenia were found in eleven patients (78.57%), seven patients (50.00%) and five patients (35.71%) in ≥2 mons group, and one patient (6.67%), one patient (6.67%) and one patient (6.67%) in <2 mons group. None of the patients died of bacterial infections or invasive fungal diseases.
Conclusion: The duration of BTKi bridging therapy before anti-CD19-CAR T-cell therapy affects the efficacy and side effects of R/R DLBCL patients, especially hematological toxicity. R/R DLBCL patients with higher primary lines or Richter transformation could be improved the efficacy of anti-CD19-CAR T-cell therapy by prolonging BTKi bridging therapy (≥2 mons). However, there were no serious adverse results due to hematological toxicity.

Disclosures No relevant conflicts of interest to declare.

Downloaded from http://ashpublications.net/blood/article-pdf/142/Supplement 1/3482/2193687/blood-84-main.pdf by guest on 02 June 2024

© 2023 by The American Society of Hematology

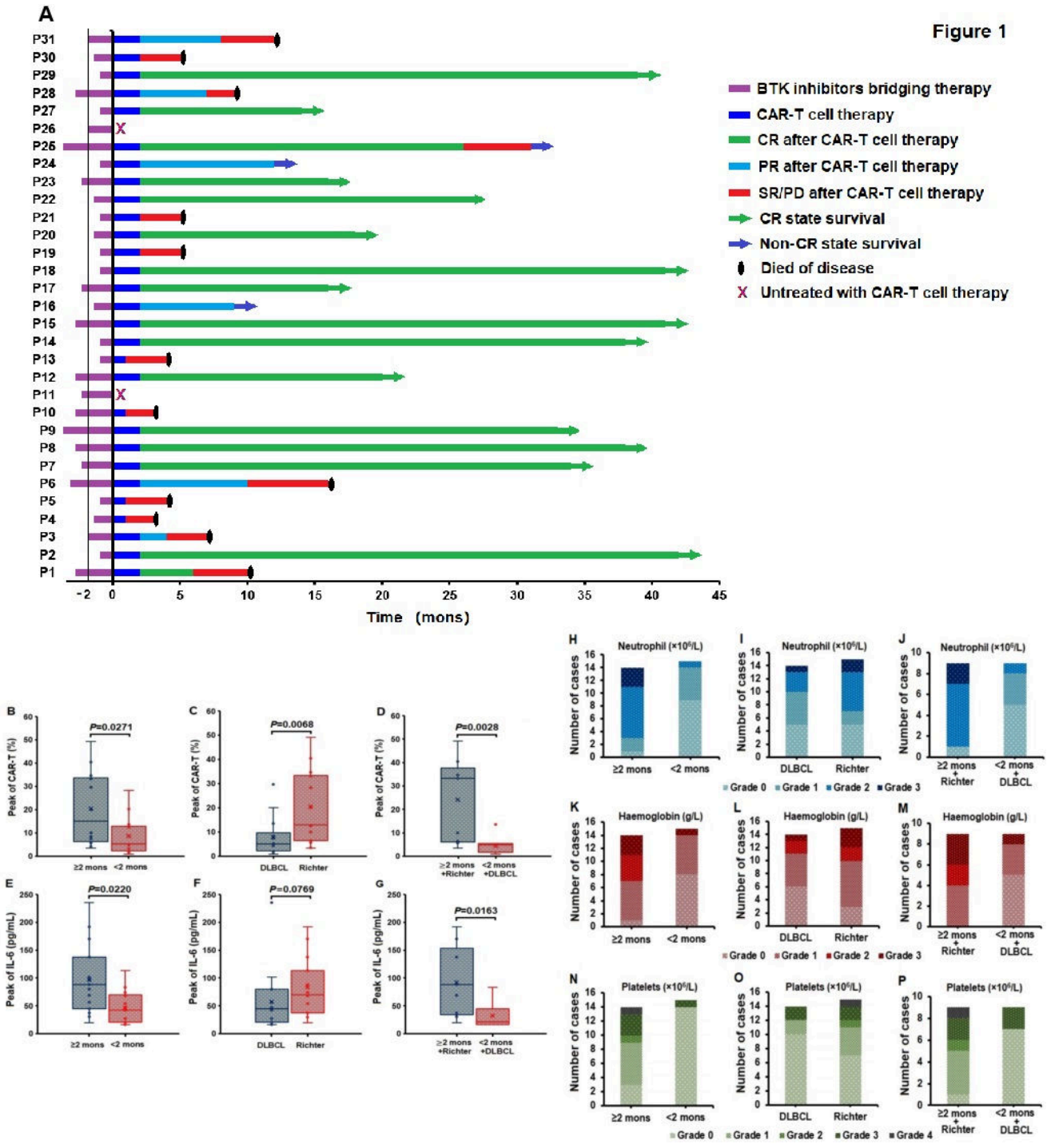

Figure 1

https://doi.org/10.1182/blood-2023-182855

Downloaded from http://ashpublications.net/blood/article-pdf/142/Supplement 1/3482/2193687/blood-84-main.pdf by guest on 02 June 2024