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POLATUZUMAB VEDODTIN VS. CAR-T CELL FOR PATIENTS WITH RELAPSED/ REFRACTORY DIFFUSE LARGE B CELL LYMPHOMA - A PROPENSITY SCORE MATCHED ANALYSIS

Topic: 24. Gene therapy, cellular immunotherapy and vaccination - Biology & Translational Research

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Background: Introduction –Pola –BR (Polatuzumab –bendamustin- rituximab) and chimeric antigen receptor (CAR)-T cells provide superior outcome compared to conventional chemotherapy in patients with relapsed/refractory diffuse large B cell lymphoma (R/R DLBCL). However, how to sequence these strategies remains controversial.

Aims: compare the outcome of CAR-T CELLS VS pola- based therapy in R/R DLBCL

Methods:

Methods: The study included R/R DLBCL patients, treated between 01/2019-08/2020 with commercial CAR-T or Pola/Pola BR after failing ≥2 lines of treatment. Propensity score analysis, matching patients based on age, lymphoma category (*de-novo*/ transformed), cell of origin, number of prior therapy lines, ECOG performance status and LDH level, was performed. Response rate, progression free survival (PFS) and overall survival (OS) were analyzed.

Results:

Results: 98 patients, treated with CAR-T (n=49; 35 with Tisagenlecleucel, and 14 with Axicabtagene ciloleucel) or Pola-based regimen (n=49) were included (patient characteristics are presented in Table 1). Median time from progressive disease to CAR-T infusion was 52 days and mostly immediate for Pola/Pola-BR. Non-relapse mortality was 0 in the CAR-T cohort vs 6% (3/49) in the Pola arm. The overall and complete response rates were 73% and 53% for the CAR-T cohort vs 63% and 20% in the Pola arm. Within a median follow-up period of 9.6 (range, 1-19.1) and 7.7 (range, 0.7-26) months for CAR-T and Pola patients, respectively, median PFS were 8.9 month (95% CI n/a) vs. 5.6 months (95% CI 3.7-7.6) (p=0.08) and median OS was not reached vs. 10.8 (2.2-19.4) months, (p=0.12), respectively(Figures 1A, 1B).

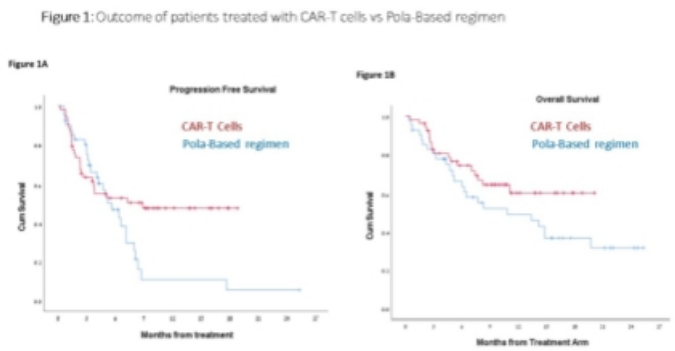
Table 1: Patient characteristics

P value	Pola group (n=49)	CAR-T Group (n=49)*	Domain
.38	67 (23-92)	70 (20-85)	Age
.68	21	23	Sex, female
.48	16	14	Transformed vs *De Novo* DLBCL
.53	27	30	Non-GCB
.43	3 (2-7	2 (2-8)	No prior lines
.1	23	31	ECOG PS >1
.8	38	39	Elevated LDH

CAR-T- Chimeric Antigen Receptor- T cell ;DLBCL- diffuse large cell B cell lymphoma; ECOG PS- Eastern Cooperative Oncology Group performance status; LDH- ; lactic dehydrogenase; No- number Pola-polatuzumab vedotin

Axicabtagene ciloleucel, N=14; Tisagenlecleucel, N=35*

Image:



Summary/Conclusion:

Conclusions - In the lack of prospective randomized trials evaluating CAR-T s vs chemo-immunotherapy, a propensity score, comparing CAR-T with Pola-based regimen was performed, demonstrating a tendency for prolonged PFS and OS in R/R DLBCL patients treated with CAR-T.

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