



INTRODUCTION

The CART-SIE is a national prospective and retrospective observational study aimed at collecting the real-life data of all consecutive lymphoma patients treated with CAR-T cells in the Italian centers. Given the recognized efficacy of axicabtagene ciloleucel (axi-cel) and tisagenlecleucel (tisa-cel) in relapsed/refractory large B-cell lymphoma (R/R LBCL) after at least two previous treatments, the best product in terms of efficacy and safety is still a matter of debate.

AIM

On these bases, we conducted a subgroup analysis in the CART-SIE study, with the aim to evaluate the outcome (ORR, DoR, OS, PFS), and the safety (CRS, ICANS) of all R/R LBCL treated with different CAR-T (axi-cel versus tisa-cel) (primary mediastinal B-cell lymphoma, PMBCL, were excluded).

METHODS



A propensity score (PS) model estimated for the probability of being treated with tisa-cel (arbitrary) was performed. Variables used for the PS model (accordingly to Bachy, Nature Medicine 2022) were: histology, age, sex, disease status (relapse vs. refractory), Ann Arbor stage (I/II vs. III/IV), IPI (< 3 vs. ≥3), LDH, C reactive protein, bulky disease, N of previous treatments, ASCT, bridging therapy (no vs. yes with response vs. yes without response), time since last treatment and centers size (≥25 vs. < 25 cases contributed).

PROGRESSION-FREE SURVIVAL BUT NOT OVERALL SURVIVAL IS SUPERIOR IN RELAPSED/REFRACTORY LARGE B-CELL LYMPHOMAS TREATED WITH AXICABTAGENE CILOLEUCEL COMPARED TO TISAGENLECLEUCEL: RESULTS OF THE CART-SIE REAL LIFE ITALIAN STUDY

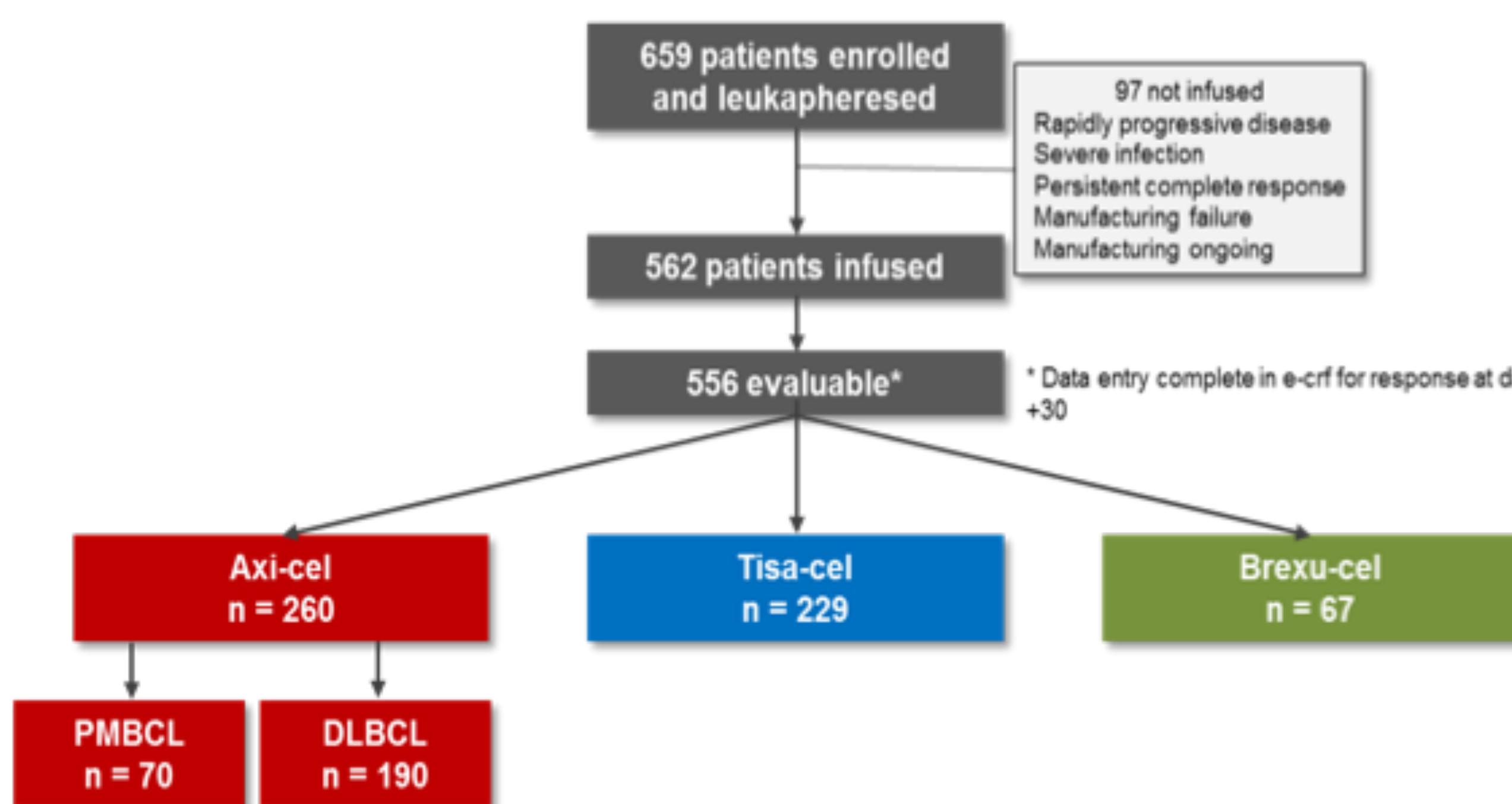
A. Chiappella¹, A. Doderio¹, B. Casadei², C. De Philippis³, S. Ljevar⁴, E. Galli⁵, A. Di Rocco⁶, M.G. Carrabba⁷, M.C. Tisi⁸, M. Musso⁹, I. Cutini¹⁰, A.M. Barbui¹¹, M. Farina¹², M. Martino¹³, A. Guidetti¹, B. Botto¹⁴, G. Grillo¹⁵, J. Olivieri¹⁶, M. Pennisi¹, M. Krampera¹⁷, M. Ladetto¹⁸, M. Massaia¹⁹, L. Arcaini²⁰, F. Cavallo²¹, R. Miceli⁴, M. Martelli⁶, P. Chiusolo⁵, S. Bramanti³, P.L. Zinzani² and P. Corradini^{1,22}.

1 Hematology, Fondazione IRCCS Istituto Nazionale dei Tumori, Milano, Italy; 2 Istituto di Ematologia "Seràgnoli", Università di Bologna; 3 IRCCS Humanitas Research Hospital, Rozzano; 4 Unit of Biostatistics for Clinical Research, Department of Data Science, Fondazione IRCCS Istituto Nazionale dei Tumori, Milano; 5 Fondazione Policlinico Universitario A. Gemelli IRCCS, Roma; 6 Sapienza University of Roma; 7 IRCCS Ospedale San Raffaele, Milano; 8 San Bortolo Hospital, AULSS8 "Berica", Vicenza; 9 La Maddalena, Palermo; 10 Ospedale Careggi, Firenze; 11 ASST Papa Giovanni XXIII, Bergamo; 12 University of Brescia, ASST Spedali Civili di Brescia; 13 "Bianchi-Melacrino-Morelli" Hospital, Reggio Calabria; 14 Città della Salute e della Scienza Hospital and University, Torino; 15 AO Ospedale Niguarda Ca' Granda, Milano; 16 Clinica Ematologica, Centro Trapianti e Terapie Cellulari "Carlo Melzi", ASUIUD di Udine; 17 Section of Medicine and Bone Marrow Transplant Unit, University of Verona; 18 Università del Piemonte Orientale, SCDU Ematologia AO SS Antonio e Biagio E Cesare Arrigo, Alessandria; 19 Santa Croce e Carle Hospital, Cuneo; 20 University of Pavia and Division of Hematology, Fondazione IRCCS Policlinico San Matteo, Pavia; 21 University of Torino; 22 Chair of Hematology, University of Milano, Milano, Italy.



RESULTS

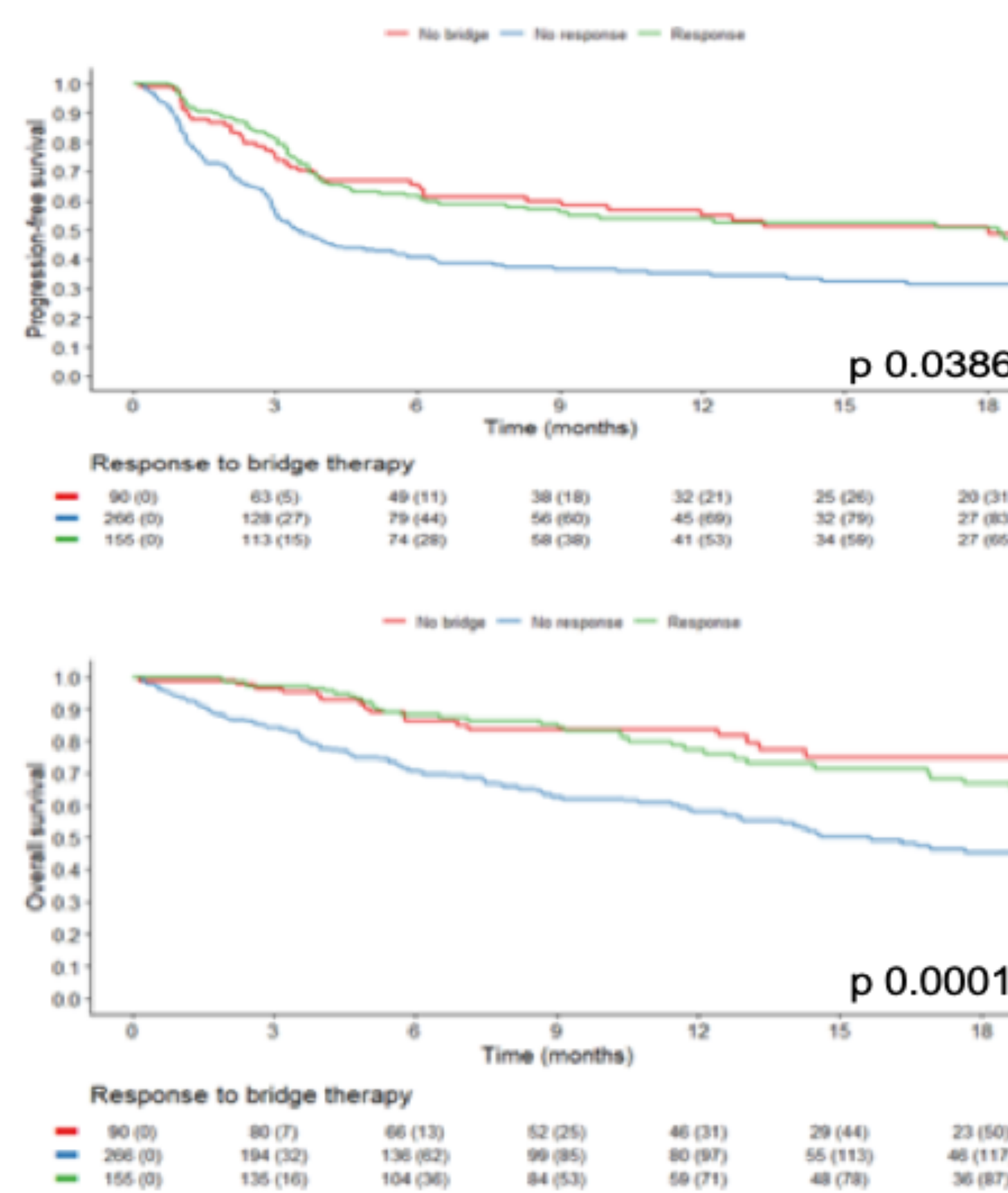
Patient flow: March 2019 – July 2023



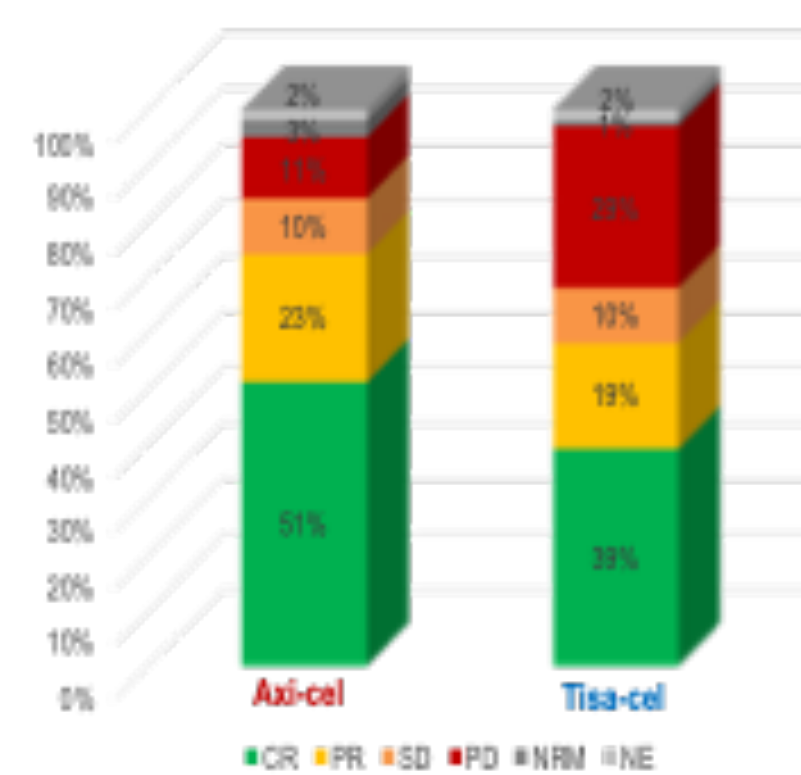
Clinical characteristics

	Axi-cel (260)	Tisa-cel (229)
PMBCL	27% (70)	0
DLBCL	73% (190)	100% (229)
• DLBCL-nos	•43% (112)	•51% (117)
• HGBCL	•17% (44)	•30% (69)
• tFL	•13% (34)	•19% (43)
Median age	53 (IQR 39; 63)	61 (IQR 52; 66)
Ann Arbor stage III-IV	59% (153)	75% (171)
Bulky disease	41% (106)	30% (69)
Refractory	78% (204)	64% (146)
Median N of previous treatment	2 (IQR 2; 3)	2 (IQR 2; 3)
Previous ASCT	25% (65)	30% (68)
Bridging therapy	83% (216)	85% (195)

PFS and OS by response to bridging Median follow-up 12.07 months (IQR: 6.05, 22.37)

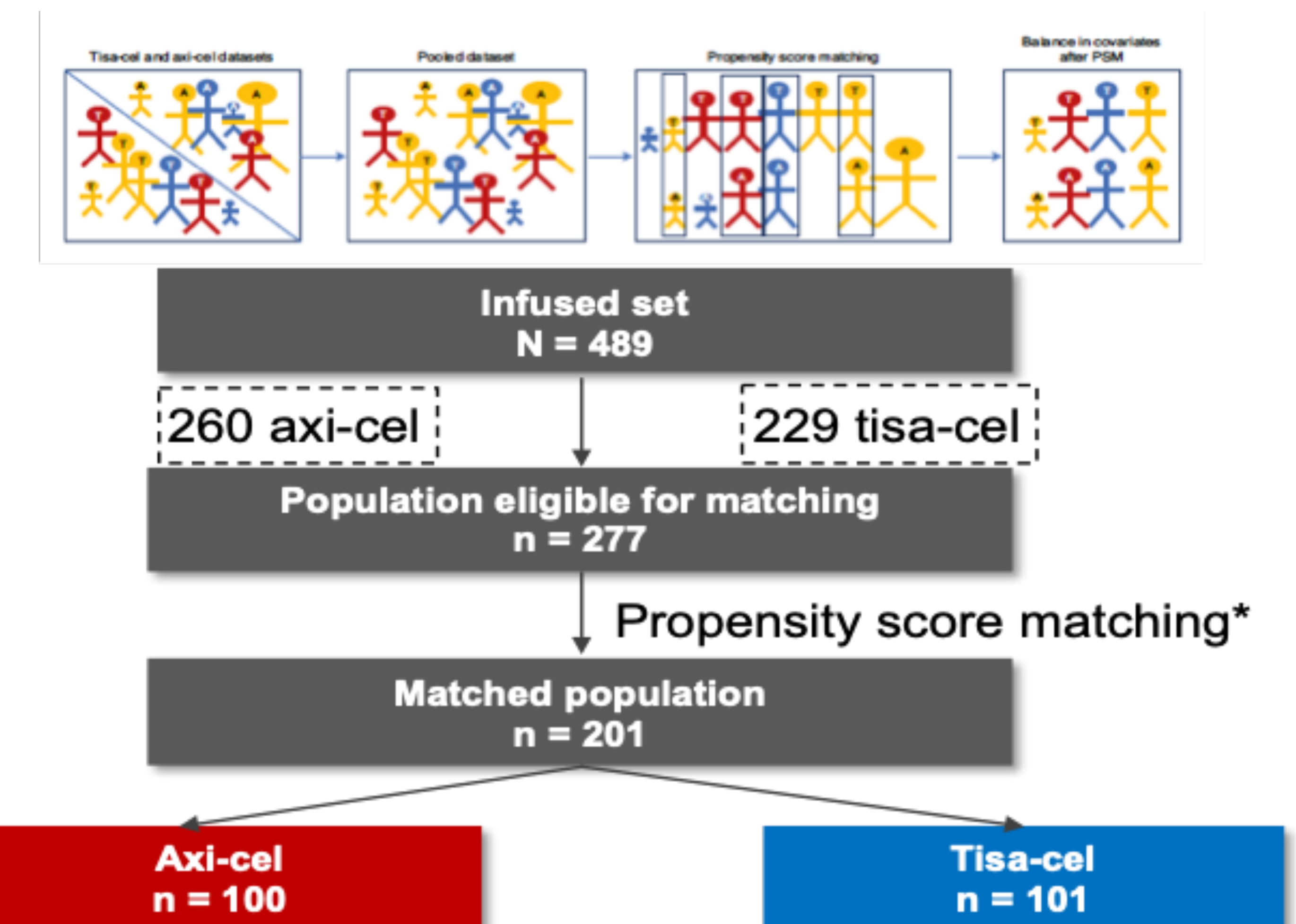


Response and safety at day +30

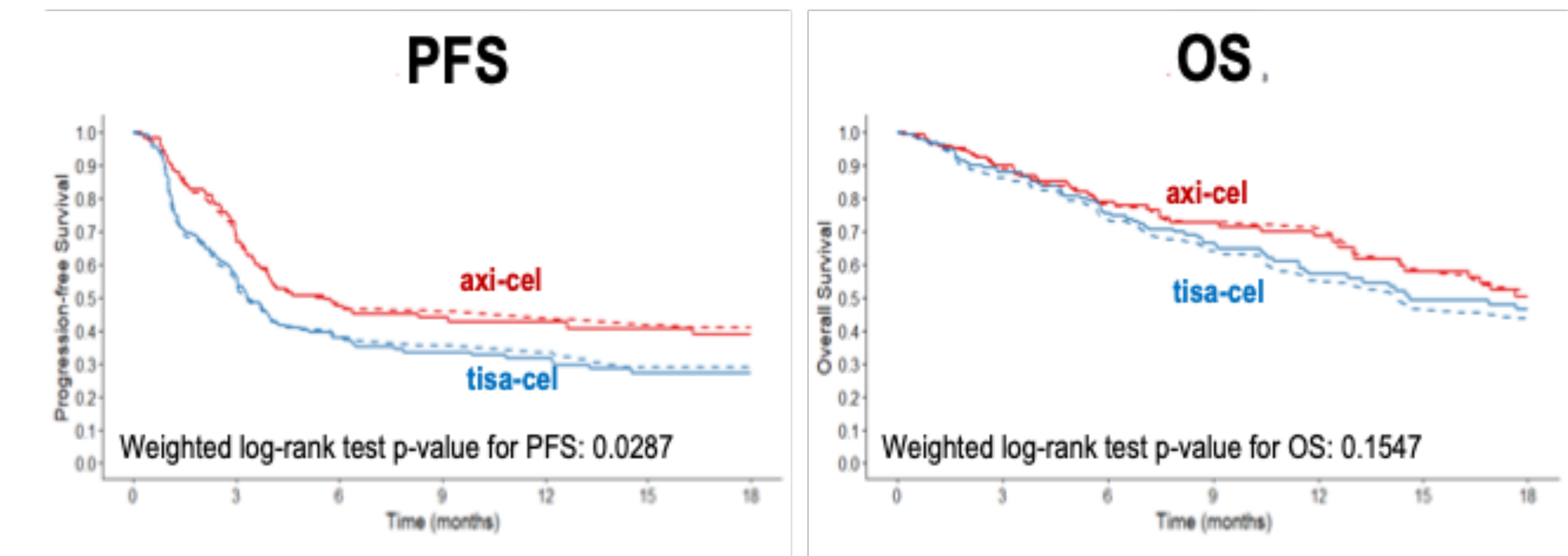


Safety	Axi-cel (260)	Tisa-cel (229)
All grades CRS (grade 3-4)	88% (9%)	77% (8%)
All grades ICANS (grade 3-4)	34% (12%)	9% (3%)
Non relapse mortality	3%	1%

Propensity score



Stabilised Inverse Propensity Score Weighting (IPW) Unweighted (solid line) vs. weighted (dashed) Kaplan-Meier curves



CONCLUSIONS

In the CART-SIE study, the outcome of patients treated with CAR-T was similar to those reported by pivotal trials and real-life studies, with manageable toxicities. At a median follow-up of 12 months, PFS for axi-cel was superior compared to PFS for tisa-cel; this advantage was confirmed in a propensity score analysis. The difference in PFS did not translate in a different OS, so far. CRS and ICANS were higher with axi-cel.

CONTACT INFORMATION

Annalisa Chiappella annalisa.chiappella@istitutotumori.mi.it

Paolo Corradini paolo.corradini@unimi.it

Hematology, Fondazione IRCCS Istituto Nazionale dei Tumori,
via Giacomo Venezian 1, 20133 Milano, Italy

