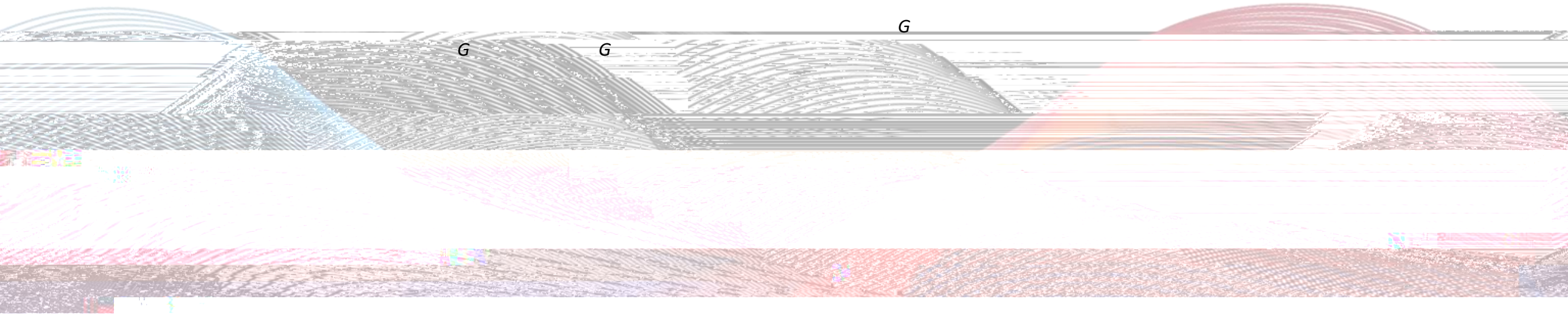

EHA2024

PHASE 2 STUDY OF FULLY HUMAN BCMA-TARGETING CAR-T CELLS (ZEVORCABTAGENE AUTOLEUCEL) IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA

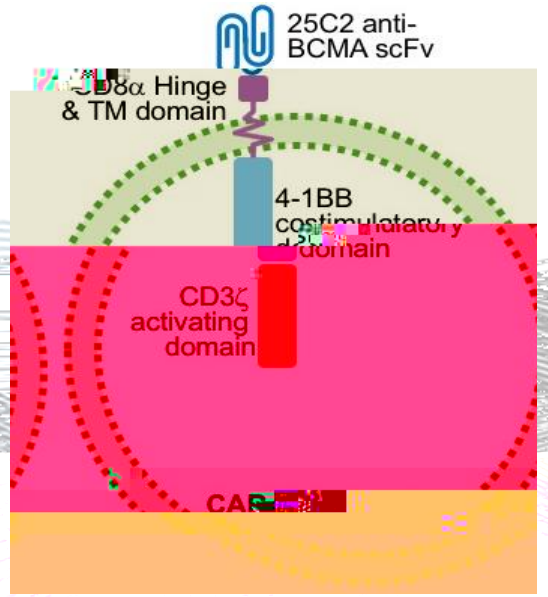
Wenming Chen*[1]



Zevorcabtagene autoleucel (zevor-cel or CT053) : BCMA Car T

High Binding affinity (pM level)[1]

	KD(M)
BCMA	4.548E-10



High stability

High Monomer Ratio
(~90%)



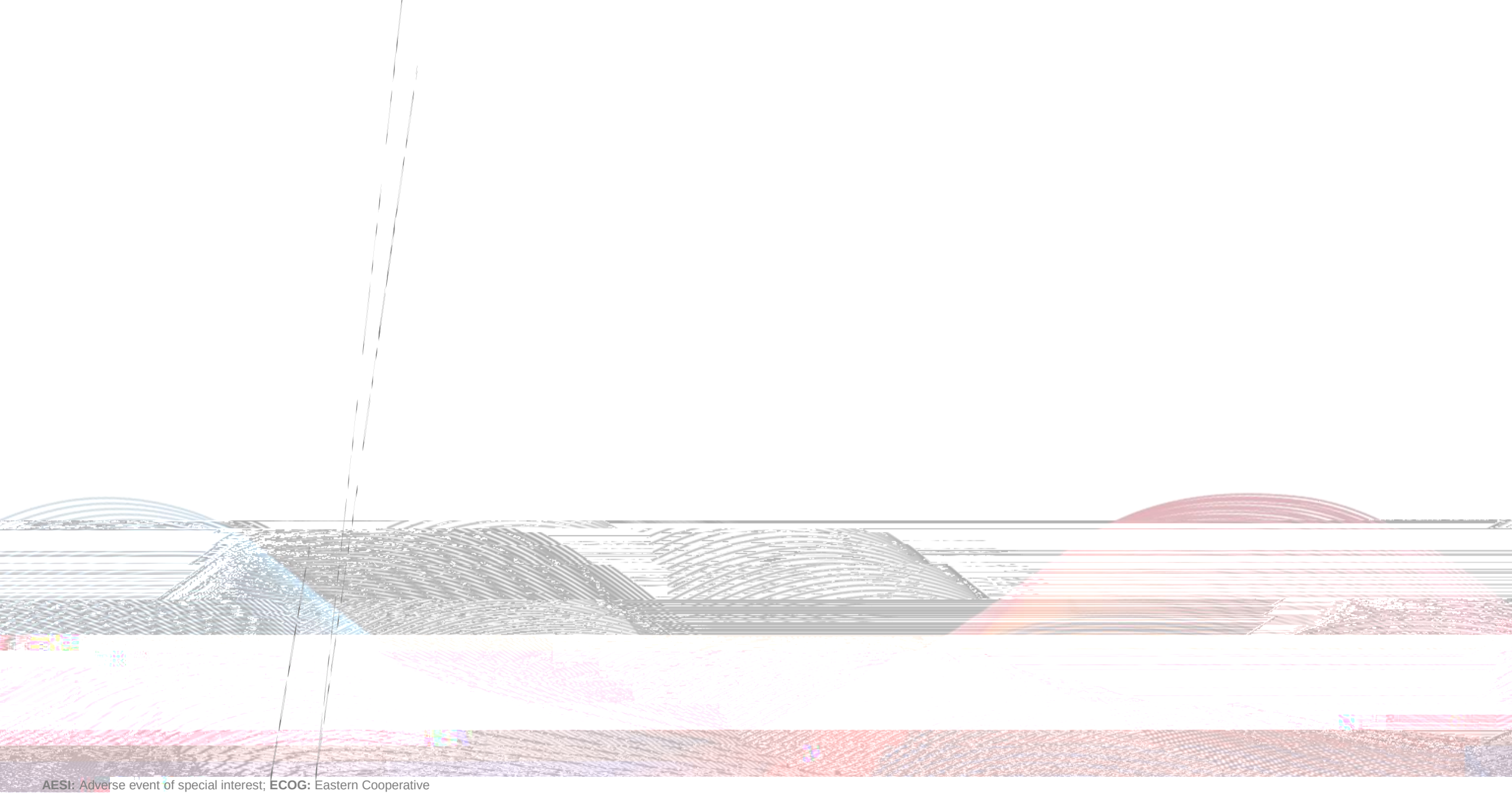
Reduced antigen-independent clustering

Less CD3 autophosphorylation



a. BCMA02 CAR was made according to the construct of another CAR-T

1.Yang, Min et al. *Haematologica* vol. 107,8 1960-1965. 2022 Aug 1



AESI: Adverse event of special interest; **ECOG:** Eastern Cooperative

Patient Characteristics

Baseline characteristic	Subjects (N=102)
Age, median (range), years	59.5 (38-75)
Sex	
Men, No. (%)	55 (53.9)
Women, No. (%)	47 (46.1)
Years since diagnosis, median (range)	3.6 (0.7-16)
Prior lines of therapy, median (range)	4.0 (3-15)
Prior antitumor regimens, median (range)	6.0 (3-17)
International Staging System, No. (%)	
I	
II	
III	
Cytogenetic high risk, No. (%)	
Extramedullary plasmacytoma, No. (%)	
Bone marrow plasma cells, No. (%)	
< 50%	
50%	17 (16.7)

102 R/R MM patients enrolled:

Median age of 59.5 years

38.2% of patients had ISS stage III disease

59.8% of patients had at least one high risk

89.2% of patients were double-class refractory

22.5% of patients were triple-class refractory

23.5% of patients received prior hematopoietic stem

Baseline characteristic	Subjects (N=102)
Double-class refractory, No. (%)	91 (89.2)
-class refractory, No. (%)	
Bridging therapy, No. (%)	26 (25.5)

Cytogenetic high risk includes: del(17p13.1); t(4,14); t(14.16); t(14,20); 1q21
Double-class refractory: Refractory to a proteasome inhibitor and immunomodulatory drug;
Triple-class refractory: Refractory to a proteasome inhibitor, immunomodulatory drug and anti-CD38 antibody

Data cutoff: Oct

Efficacy Summary

As of Oct 25, 2023, 102 R/R MM patients with median follow-up of 20.3 months (range 0.4-27.0):

92.2% ORR

91.2% (93/102) VGPR and
71.6% (73/102) CR/

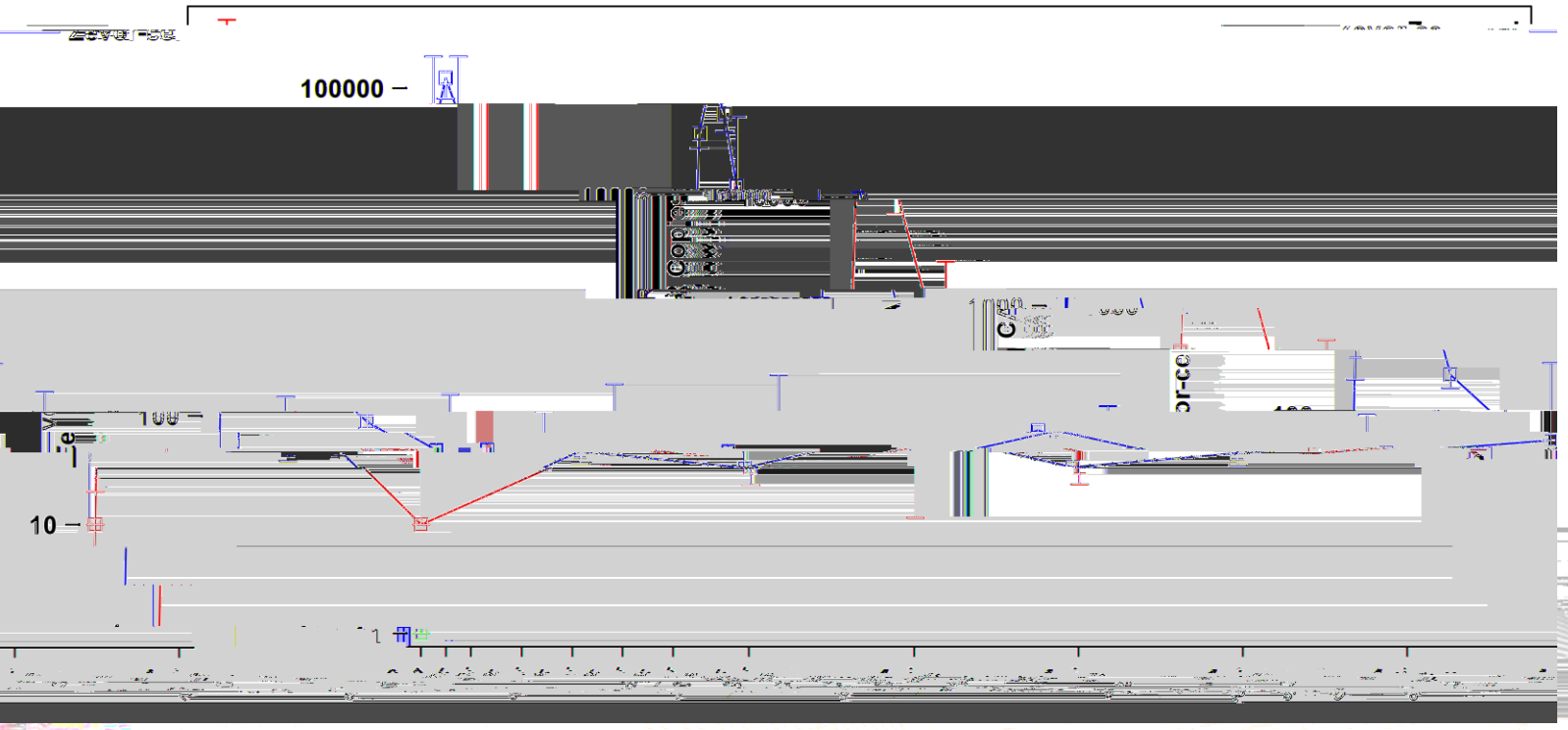
Efficacy Summary

With median 20.3 months follow-up:

The duration of response (DOR) and progression-free survival (PFS) data were not mature.

The probabilities of the responders remaining in response at 12 months and 18 months were 76.8% (95%

Pharmacokinetics and Immunogenicity



PK figure: Semi-log plot of Median CAR Copies for 102 Subjects by time. The lower limits is the first quartile (Q1), and the upper limits is the third quartile (Q3).

In 102 patients, zevor-cel was detected in 91.2% of patients by 3 days after infusion.

Median T_{max} was 14 days (7, 22).

Median C_{max} was 202543.5 copies/ genomic DNA.

Median T_{last} was 140 days (26, 740).

Zevor-cel copies were still detectable in 33.3% (34/102) of patients at 26 weeks, 8 7.8% at M12 post infusion, showing stable expansion and persistence.

Anti-drug antibodies were tested negative for 81 (79.4%) patients.

Data cutoff: Oct

Adverse event	Subjects (N=102) No. (%)
Treatment-related AEs (TRAEs)	102 (100)
	102 (100)
Cytokine release syndrome (CRS), any grade	92 (

Summary

LUMMICAR STUDY 1 is a single-arm, open-label, multi-center Phase 1/2 clinical trial, which enrolled patients with R/R MM who had failed at least 3 lines of therapy. China NMPA conditionally approved the registration of zevor-cel on February 23, 2024.

1. Zevor-cel showed clinical benefit in patients with R/R MM.

In 102 patients, per IRC assessment, the ORR was 92.2% (94/102), the remission rate at VGPR and above was 91.2% (93/102), the CR/sCR rate was 71.6% (73/102). A trend towards deepening of responses was observed with longer duration of follow-up.

Patients who achieved VGPR and above were 95.7% MRD negative, achieved CR/sCR were 100% MRD negative.

With 20.3 months median follow-up, median DOR, PFS and OS were not mature.

2. The safety results of zevor-cel showed manageable risk and zevor-cel was well tolerated.

The incidence of CRS grade 3 was 6.9% (7/102). No grade 5 CRS were reported.

The incidence of ICANS was 2% (2/102) and both were grade 1.

One patient died due to pneumonia 149 days after zevor-cel infusion.

3. Zevor-cel PK shows persistence.

Median T_{max} was 14 days, median C_{max} was 202543.5 copies/ g genomic DNA, and median T_{last} was 140 days. 140 days was the 140 day

Acknowledgments

The patients and families who made this study possible

The clinical teams who participated in the study

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All authors contributed to and approved the presentation.

