Approccio trapiantologico al paziente con linfoma recidivato/refrattario

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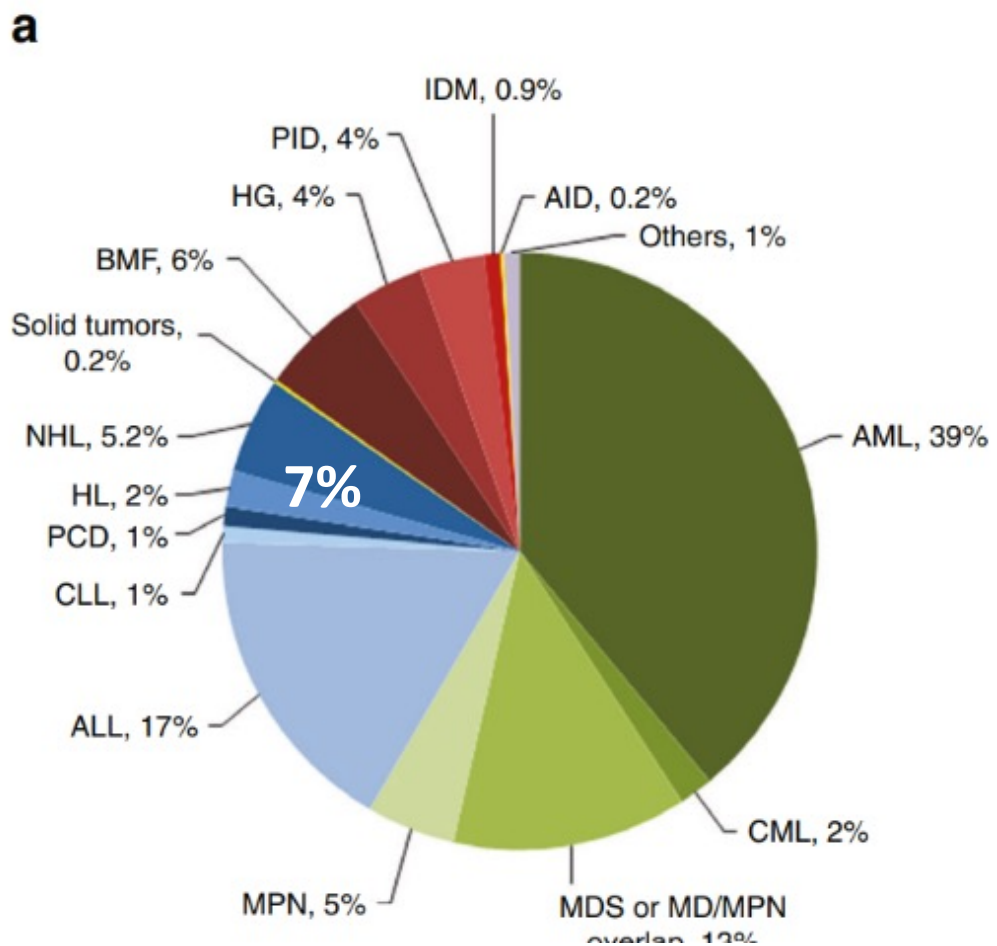
AZIENDA OSPEDALIERA DI RILIEVO NAZIONALE

Disclosures of Dr. ssa Alessandra Picardi

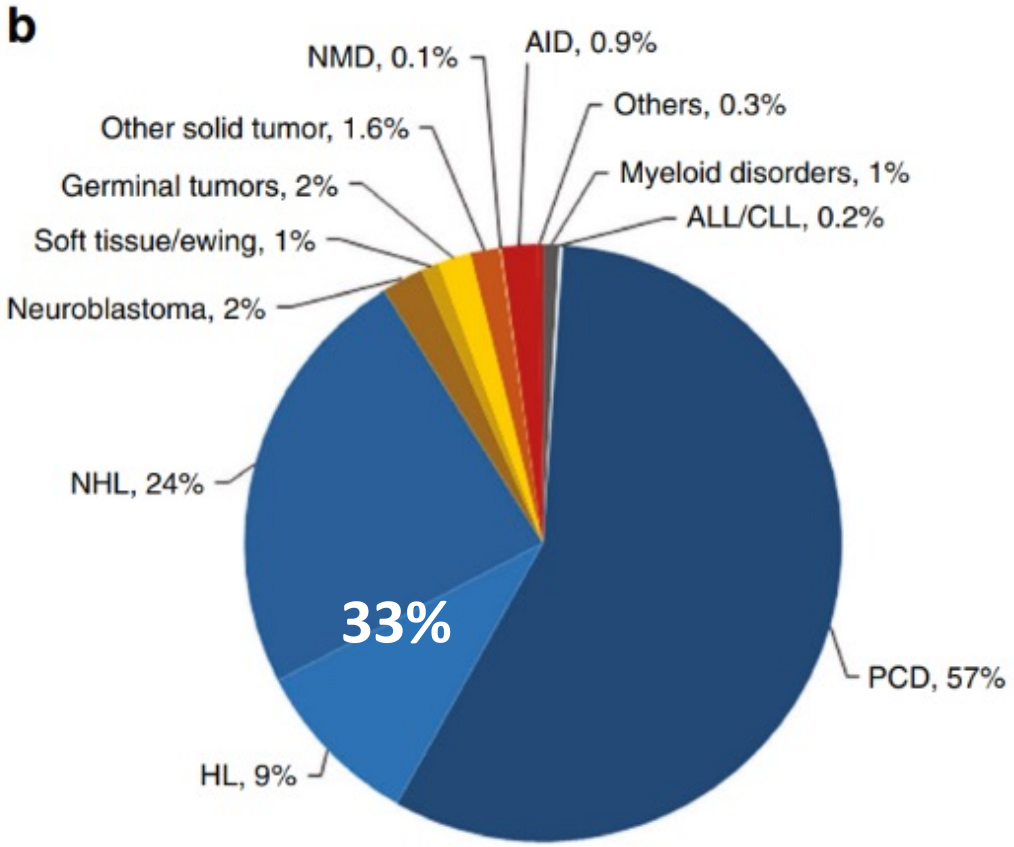
Company name	Research support	Employee	Consultant	Stockholder	Speakers bureau	Advisory board	Other
MEDAC					X		
TILLIOTS					X		
KITE					X		
NOVARTIS					X		
TAKEDA						X	
ALEXION						X	
ASTELLAS					X		
GRIFOLS						X	

2022

EBMT ALLOGENEIC HSCT ACTIVITY

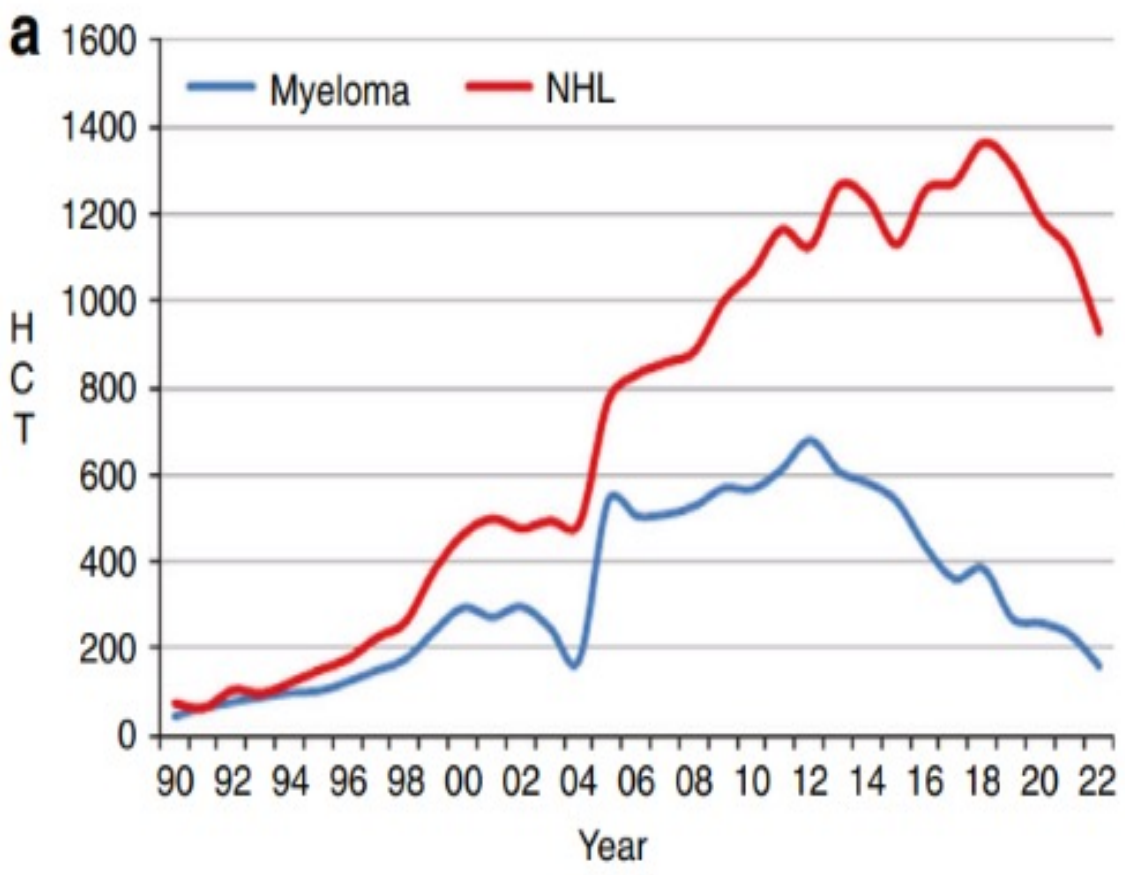


EBMT AUTOLOGOUS HSCT ACTIVITY

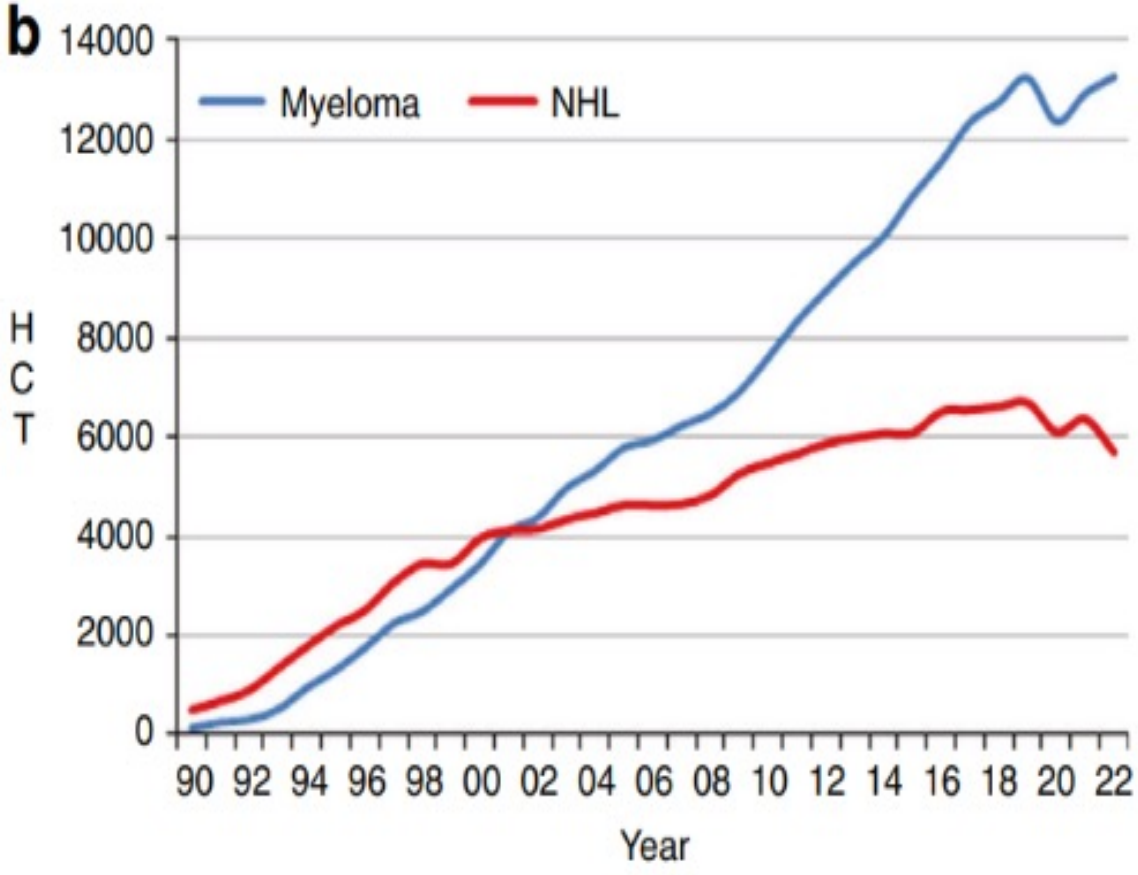


Passweg JR et al, BMT 2024

ALLOGENEIC HSCT



AUTOLOGOUS HSCT



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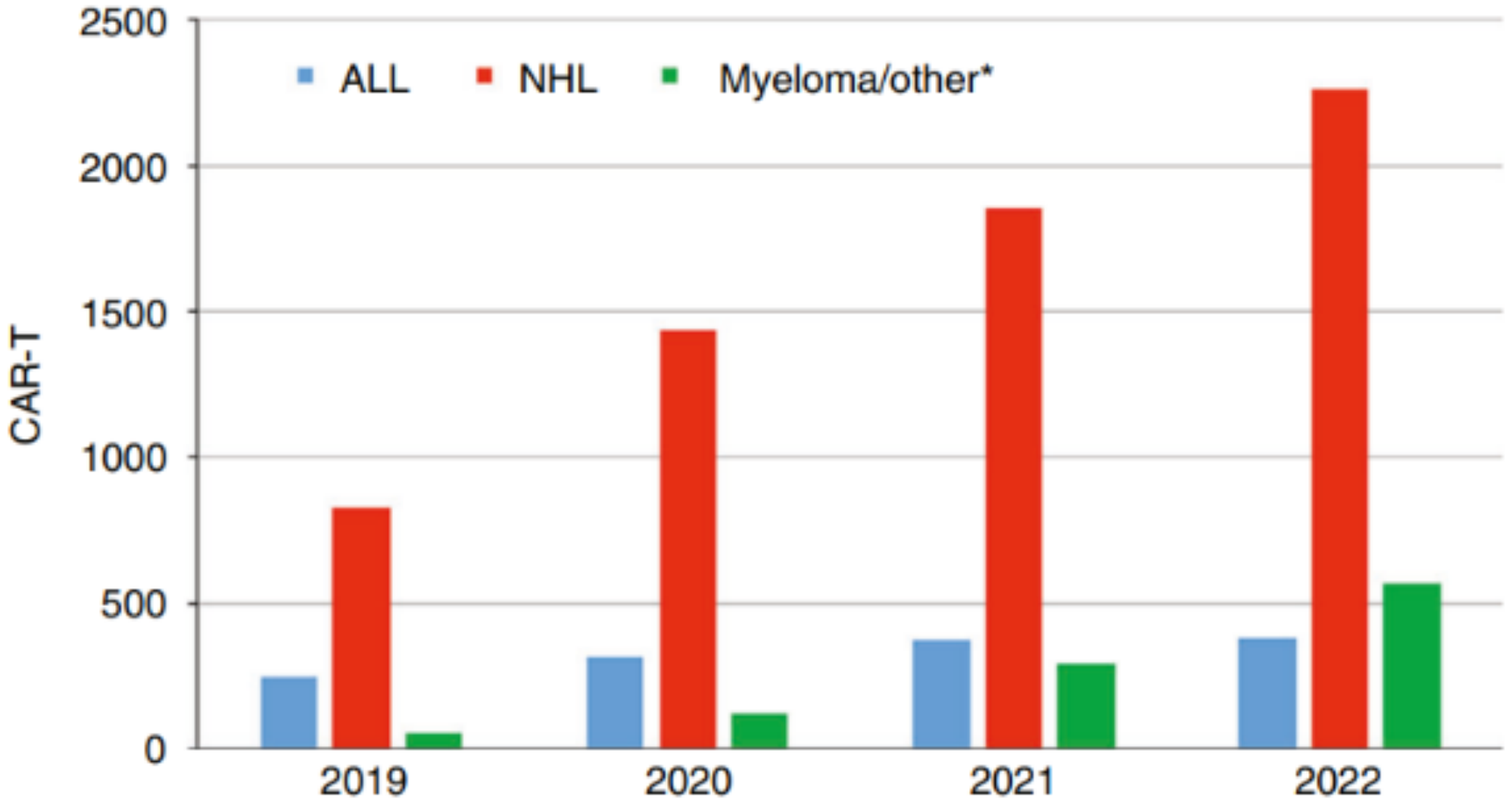

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AGENDA

ALLOGENIC HSCT in NHL

ALLOGENEIC HSCT IN HD

AUTOLOGOUS HSCT: IS THERE A BETTER CONDITIONING REGIMEN?

GRAFT VERSUS LYMPHOMA

Recommendations for ASCT in LBCL

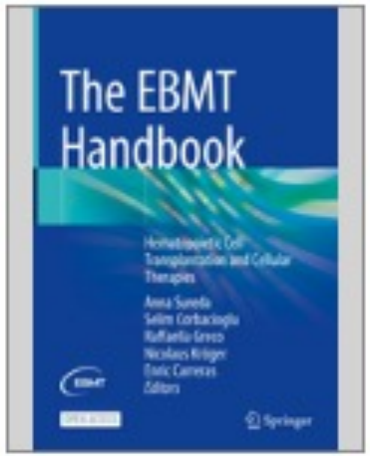
ASTCT Consensus statement	Grading of Recommentations	Percentage of Panelists in Agreement
The panel recommends ASCT consolidation therapy in eligible patients with late relapse and CR or PR after 2L.	A	96%
The panel considers ASCT an acceptable consolidation therapy in eligible patients with early relapse and CR after 2L.	B	88%
The panel considers ASCT an acceptable consolidation therapy in eligible patients with early relapse and PR after 2L.	B	96%

EBMT Consensus statement	ASCT	CAR-T
Early chemosensitive relapse	CO/II	S/I
Late chemosensitive relapse	S/II	CO/II

CO: Clinical Option; S: Standard of care

Epperla N et al. Transplant Cell Ther. 2023 Sep;29(9):548-555
Greco R et al. Bone Marrow Transplant. 2025 Nov;60(11):1499-1525

Indications for auto-HCT in B-NHL

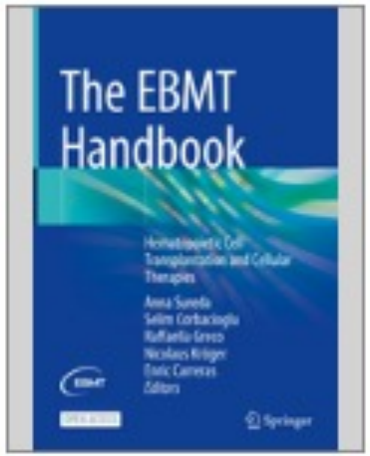


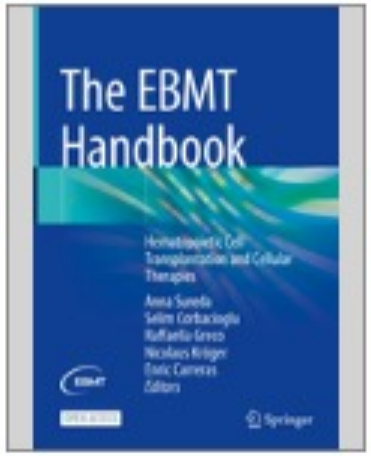
Disease status	Recommendations
First complete remission	Clinical option Level of evidence I
Chemosensitive early relapse, ≥CR2	Clinical option Level of evidence I
Chemosensitive late relapse, ≥CR2	Standard of care Level of evidence II
Refractory disease	Generally not recommended Level of evidence I

Consolidation therapy in Mantle Cell Lymphomas? (TRIANGLE Study Results)

Key Points

- Ibrutinib improves disease-free survival in addition to intensive induction- and RTX maintenance therapy.
- Auto-HCT in first remission should be questioned in low-risk patients and patients with *TP53* mutations not responding to chemotherapy.
- CD19-directed CAR T-cell therapy achieves high remission rates in relapsed and R/R MCL.
- Early treatment with CAR T-cells is currently evaluated by EMCLN in the CARMAN trial.
- While curative potential of CART-cell therapy in MCL remains unclear, allo-HCT should be evaluated for MCL patients relapsing after CAR T-cell therapy.





Management of relapsed or refractory LBCL

- *New biopsy*: Highly recommended in all patients with R/R LBCL. Core biopsies acceptable
- *Radiological evaluation*: PET/CT recommended for evaluation of treatment outcome

- *Salvage therapy followed by auto-HCT* is currently considered the standard of care for patients with R/R DLBCL with late relapse (>12 months from the end of first-line therapy)
- *CAR T cells* is considered standard of care for patients with refractory disease or early relapse (within 12 months from the end of first-line therapy)
- *Allo-HCT* could be considered a potential treatment option in younger patients without comorbidities especially in patients with R/R after CAR T cells and with chemosensitive disease

Consider also patients not elegible for CAR-T therapy

Transplantation and Cellular Therapy 31 (2025) 806.e1–806.e19

Transplantation and Cellular Therapy

journal homepage: www.astctjournal.org

Full Length Article
Allogeneic — Adult

Long-Term Outcomes After Allogeneic H Cell Transplantation in Relapsed/Refract Lymphoma: An Italian Multicenter Colla

Corrado Tarella[1,*], Simona Sammassimo[1], Samu

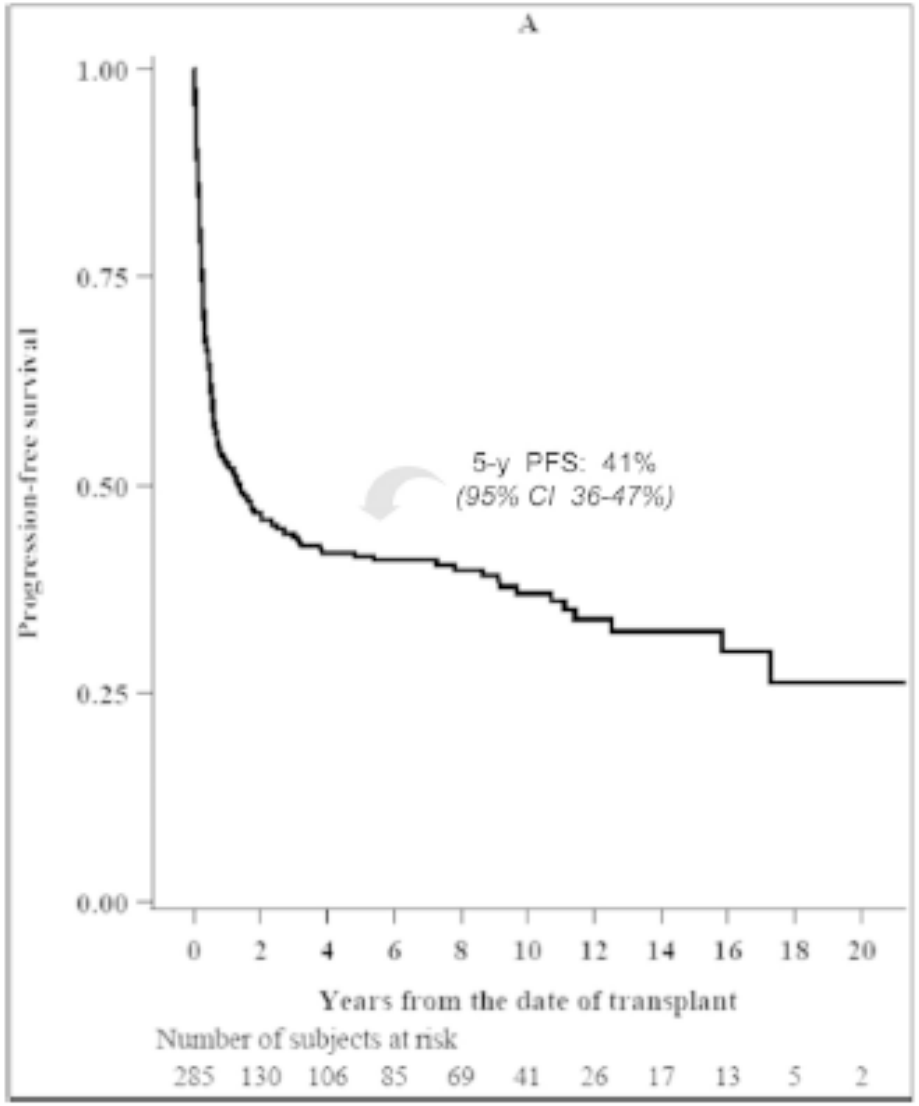
A B S T R A C T

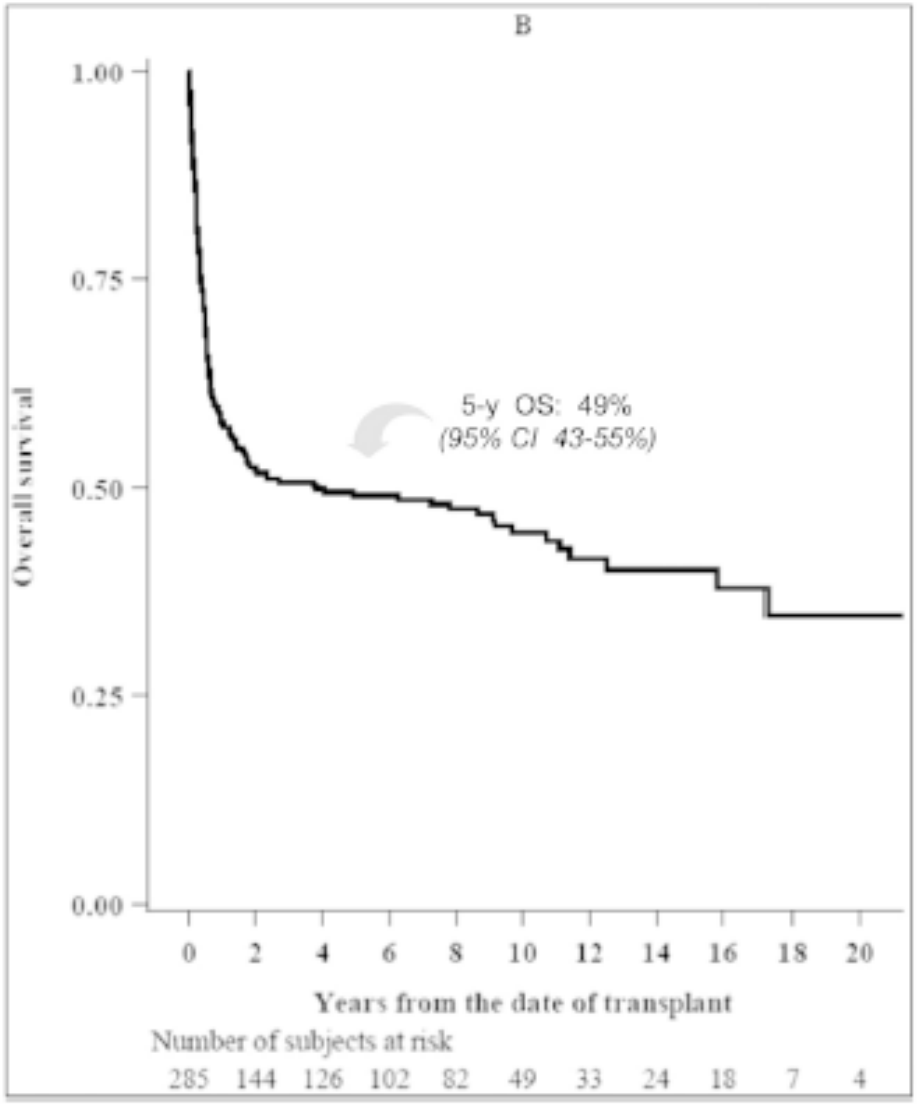
Allogeneic hematopoietic stem cell transplantation (allo-HSCT) use in refractory/relapsed B-cell non-Hodgkin lymphoma (R/R B-NHL) has been reduced due to the efficacy of CAR-T-cell therapy as salvage treatment. However, there remains a need for data regarding the long-term outcomes following allo-HSCT, to fully characterize this procedure as a benchmark to design further studies on the role of allogeneic stem cell transplantation. The present study was lauched to assess the long-term outcomes of R/R B-NHL patients after allo-HSCT, in a multicenter study among six Italian hematology centers. Data were collected from 285 allo-HSCT procedures performed among 281 R/R B-NHL patients, in 2000 to 2020. All patients signed informed consent for sharing data with the GITMO/EBMT Registry, and the study was approved by the Institutional Review Board of the coordinating center. The primary endpoint was progression-free survival (PFS). Secondary endpoints included overall survival (OS), cumulative incidence function (CIF) of median follow-up for surviving patients was 8.7 yr (0.3 to 22). Three-year PFS was 43.7% (95% CI 37.9 to 49.4), 9-yr PFS 39.3% (33.4 to 45.1), 3-yr OS 50.4% (44.5 to 56.1), and 9-yr OS 46.6% (40.5 to 52.5). Positive predictors of 3-yr PFS included indolent lymphoma (55.3%) versus aggressive (37.9 %) and MCL (27.0%); and CR at allo-HSCT (51.9%) vs non-CR (30.9% to 38.9%). Similar associations were observed for OS. Among patients in CR, outcomes did not significantly differ among histological subtypes. Among patients not in CR, outcomes were significantly better for indolent lymphoma (3-yr PFS: 56.6%), compared to aggressive (26.4%), and MCL (0%). Regarding transplant procedures, the subgroup receiving post-transplant cyclophosphamide-based program for GVHD prophylaxis had a significantly improved outcome. Overall, 56 patients (19.6%) died from lymphoma progression, with 1-yr and 3-yr CIF of disease-related death of 15.9% (95% CI: 11.9 to 20.5) and 18.5 (14.2 to 23.2), respectively. The latest disease recurrence occurred at 5.4 yr post-allo-HSCT. Early NRM occurred in 75 patients (12-month CIF 26.1%), and late NRM in 25 patients (5-yr CIF 31.2%; 25.9 to 36.7). At present, 95 patients (33.3%) are long-term survivors in continuous CR at 5-22 yr since transplant. Despite pronounced toxicity, allo-HSCT is effective in high-risk, R/R B-NHL, with 5-yr PFS expectancy of ~40%, and approximately one-third of long-term survivors in CR. Patients undergoing allo-HSCT in CR exhibited the best results. Among patients not in CR, the greatest benefits were obtained in indolent lymphoma. Allo-HSCT remains a potentially curative option for R/R B-NHL patients and further investigations are warranted to define its possible use in patients unable to undergo or failing CAR-T-cell therapy and/or bispecific monoclonal antibodies.

ALLOGENEIC HSCT = 285

previous intensified therapy with autograft*	NO YES	106 (38.5) 169 (61.5)
Salvage therapy before allo-HSCT*,‡	NO YES	37 (13.2) 244 (86.8)
Status at allo-HSCT*	Complete remission Partial remission Stable disease Progressive disease	135 (47.7) 63 (22.3) 30 (10.6) 55 (19.4)
Clinical presentation at allo-HSCT: - KPS*	> 70%	106 (100)
- HCT-CI*	0 1-2 ≥ 3	60 (29.0) 80 (38.6) 67 (32.4)
- DRI*	Low Intermediate High Very high	115 (41.4) 108 (38.8) 4 (1.4) 51 (18.3)
Year of transplant	2000 – 2005 2006 – 2010 2011 – 2015 2016 - 2020	51 (17.9) 76 (26.7) 79 (27.7) 79 (27.7)
Age at transplant Type of conditioning regimen	Years, median (range) Myeloablative (MAC) Reduced intensity (RIC)	50 (19-70) 86 (30.2) 199 (69.8)

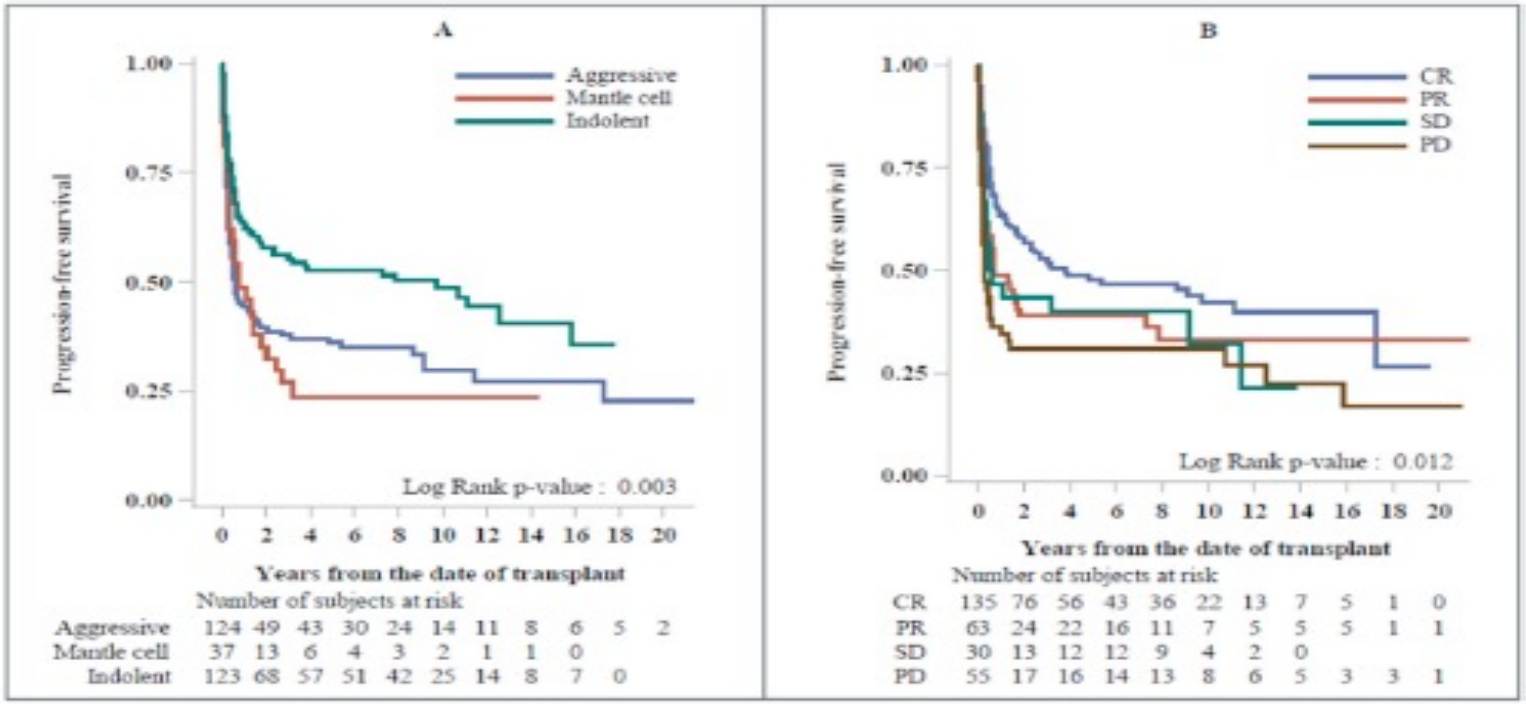
Tarella C et al, ASTCT 2025





Median follow up of surviving patients: 8.7 years (range: 0.3 to 22)

Tarella C et al, ASTCT 2025



Tarella C et al, ASTCT 2025

EBMT 2026: OS02-08

ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION AFTER FAILING CAR-T THERAPY FOR PATIENTS WITH RELAPSED/REFRACTORY LARGE B CELL LYMPHOMA: SPANISH MULTICENTER GETH-TC/GELTAMO STUDY

SPANISH LYMPHOMAS GROUP

L. BENTO

Introduction

- For patients who relapse after CAR-T therapy, whether in ≥3rd or 2nd line, allogeneic hematopoietic stem cell transplantation (allo-HSCT) could be considered a potentially curative treatment in eligible patients.
- Unfortunately, data regarding efficacy, toxicity and potential role of new treatment strategies to be used to achieve chemosensitivity prior to allo-HSCT in this subpopulation of patients are scarce.

The aim of this study is to analyse the long term outcomes of patients with LBCL that fail CAR-T cell therapy and receive an allo-HSCT.

Zurko J et al. Haematologica. 2023 Jan 1;108(1):98-109
Fried S et al. Transplant Cell Ther. 2023 Feb;29(2):99-107

N = 53

Retrospective Multicenter Study

Disease Status was assessed by PET-TC in all cases

- The primary endpoint was:
  - ✓ Non-relapse mortality (NRM)
- The secondary endpoints were:
  - ✓ Progression-free survival (PFS) and overall survival (OS)
  - ✓ Graft versus host disease (GVHD)
  - ✓ GVHD/Relapse-free survival (GRFS)
  - ✓ The efficacy of different salvage treatments prior to allo-HSCT
- Disease status was defined as complete remission (CR), partial response (PR) and refractory disease (stable disease or progression) assessed by PET/CT.

Bento L, EBMT 2026

Baseline characteristics

	N=53
Receptor gender (M/F)	70% / 30%
Lymphoma subtype	
DLBCL	31 (58%)
HGBCL	6 (11%)
PML	10 (19%)
tFL	6 (11%)
AA Stage at diagnosis	
I-II	9 (17%)
III-IV	43 (83%)
Missing	1
Bulky disease at diagnosis	
Yes	26 (50%)
No	26 (50%)
Missing	1
Extranodal involvement at diagnosis	
0	19 (37%)
1	11 (22%)
>1	21 (41%)
Missing	2
LDH at diagnosis	
High	32 (67%)
Normal	16 (33%)
Missing	5

	N=53
IPI at diagnosis	
0-2	27 (55%)
>2	22 (45%)
Missing	4
Second line treatment	
R-ESHAP	15 (28%)
R-ICE	9 (17%)
R-GDP	8 (15%)
Axi-cel	7 (13%)
Pola-R-ICE	8 (15%)
Other	6 (11%)
Auto-HSCT	
Yes	11 (21%)
No	42 (79%)
Third line treatment	
Axi-cel	27 (54%)
Tisa-cel	5 (10%)
Biespecific antibody	5 (10%)
CIT	9 (18%)
Clinical Trial	3 (6%)
Academic CAR-T	1 (2%)
Missing	3

Bento L, EBMT 2026

CAR-T characteristics

	N=53
ECOG pre-apheresis	
0-1	49 (96%)
2	2 (4%)
Missing	2
LDH pre-apheresis	
Normal	25 (47%)
High	26 (49%)
Missing	2
CAR-T line	
1L	1 (2%)
2L	7 (13%)
3L	38 (72%)
>3L	7 (13%)
CAR-T type	
Axi-cel	38 (72%)
Tisa-cel	9 (17%)
Clinical Trial	6 (11%)

	N=53
Disease status at CAR-T	
CR	3 (6%)
PR	11 (21%)
SD	9 (17%)
Progression	29 (56%)
Unknown	1
Best response to CAR-T	
CR	22 (41%)
PR	16 (30%)
SD	5 (9%)
Progression	10 (19%)
Median time from CAR-T to relapse (months, R)	4 (0-43)
Number of lines between CAR-T and allo-HSCT (median, R)	1 (1-4)
Median time between CAR-T and allo-HSCT (months, range)	13 (3-53)

94%

Bento L, EBMT 2026

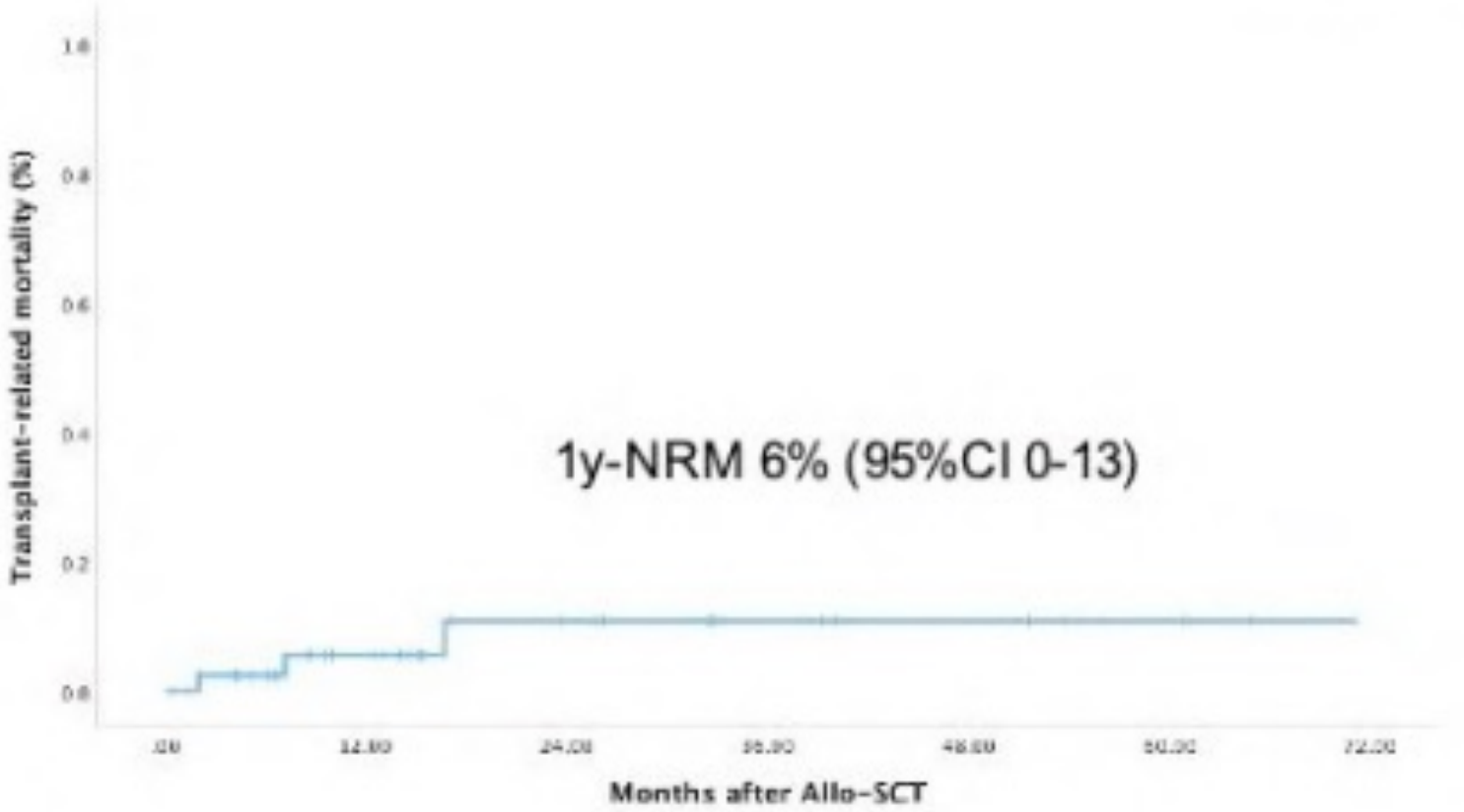
Allo-HSCT characteristics

	N=53
Median age (years, R)	51 (20-70)
HCT-CI	
0-2	29 (56%)
>2	23 (44%)
Missing	1
Number of total lines pre-allo-HSCT (median, R)	4 (2-12)
Salvage therapy pre-allo-HSCT	
Biespecific antibody	17 (32%)
Rituximab-Pola-Bendamustine	13 (24%)
Anti-PD1/PDL1 ± Brentuximab	9 (17%)
CIT	8 (15%)
Tafasitamab-Lenalidomide	3 (6%)
Others	3 (6%)
Disease status at allo-HSCT	
CR	30 (56%)
PR	19 (36%)
SD	2 (4%)
Progression	2 (4%)

	N=53
Donor type	
MSD	19 (36%)
Haplo	21 (40%)
MUD	12 (23%)
MMUD	0 (0%)
Missing	1
Source	
PB	53 (100%)
BM	0 (0%)
Conditioning type	
MAC	5 (9%)
RIC	48 (91%)
TBF	17 (35%)
BUFLU	5 (10%)
BUMEL	7 (15%)
TREOFLU	8 (17%)
Other	11 (23%)
GVHD prophylaxis	
PTCy + Tacrolimus ± MMF	30 (57%)
PTCy + Sirolimus ± MMF	11 (21%)
ATG based	3 (6%)
Tacrolimus + Sirolimus	5 (7%)
Other	3 (9%)

Bento L, EBMT 2026

100-days CR = 74%



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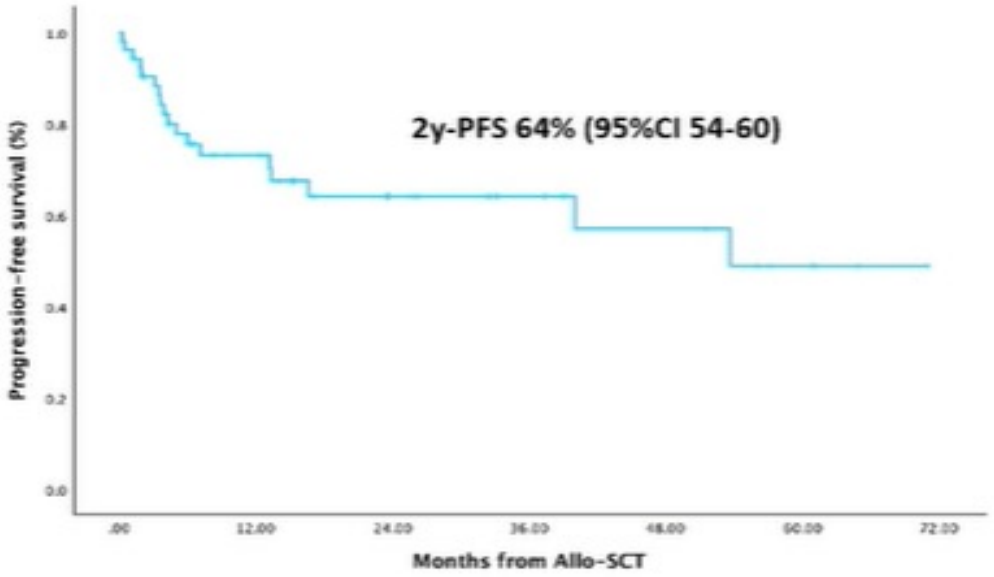
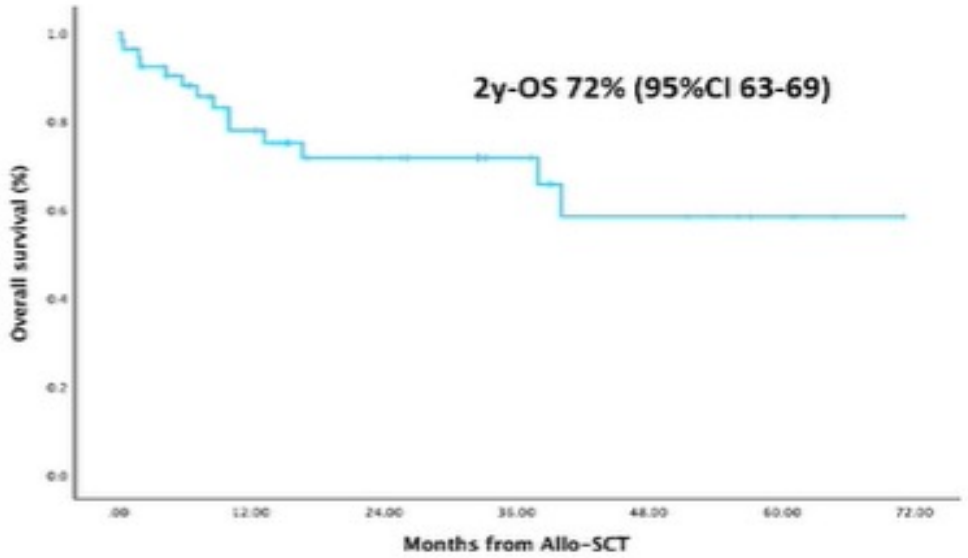
Survival

Progression free survival



Overall survival

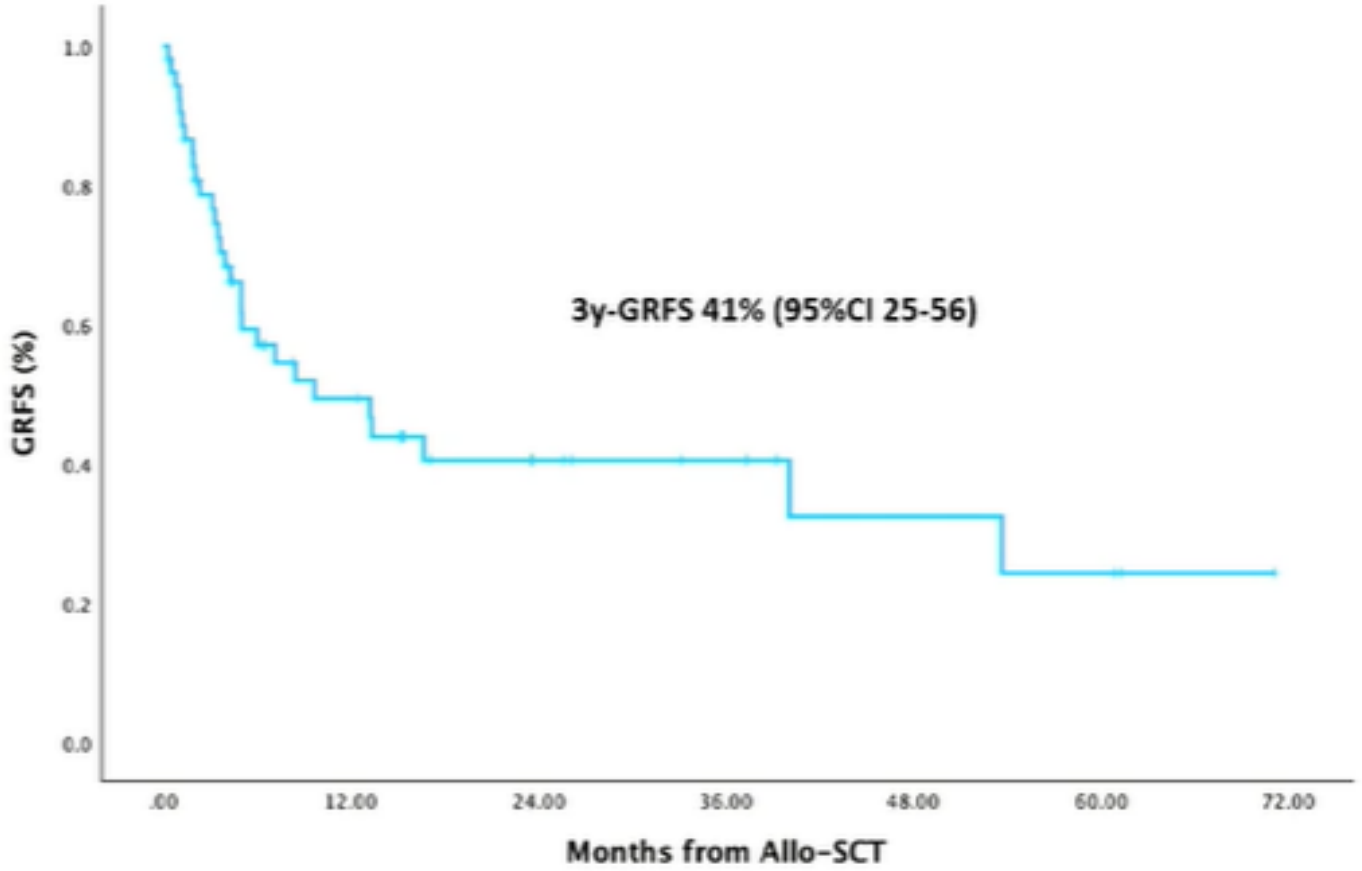


Median follow-up: 25.7 months

None of the variables showed an impact on PFS and OS was only influenced by disease status at allo-HSCT (p=0.04).

Bento L, EBMT 2026

GVHD/Relapse-free survival

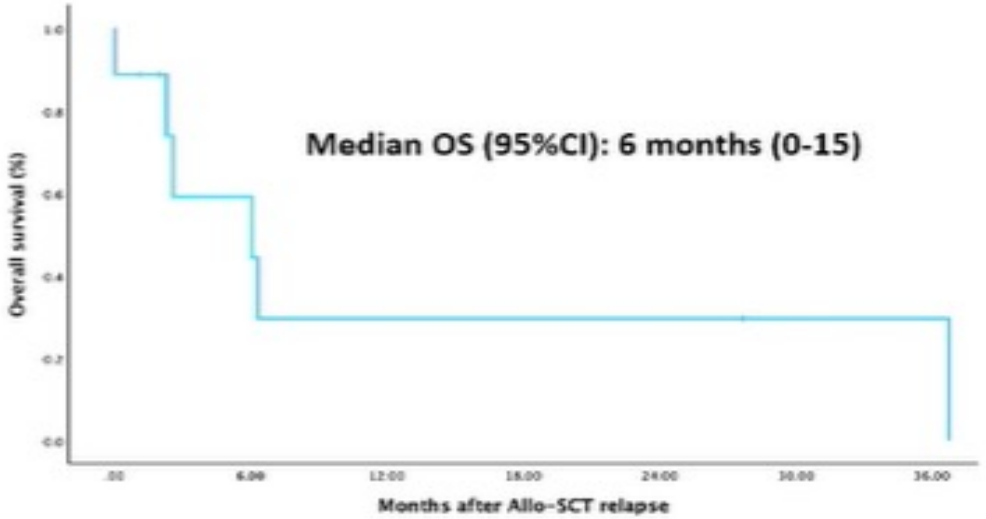


Bento L, EBMT 2026

Relapse after allo-HSCT

12/53 (23%) of the patients relapsed after allo-HSCT and 8/12 (67%) of them received a salvage treatment.

N=8	Treatment
2	DLI
2	Radiotherapy
2	CIT ± ibrutinib
1	R-Benda-Pola + 2nd allo-HSCT
1	Biespecific antibody



Bento L, EBMT 2026

Conclusions

- Our data confirmed that allo-HSCT is a feasible and a potentially curative option for eligible patients with R/R LBCL failing after CAR-T therapy, with a high PFS and low NRM.
- Most of the patients received targeted therapies as a bridging to allo-HSCT such as bispecific antibodies, polatuzumab and anti-PD1/PDL1 based regimens.
- Prospective studies are needed to confirm these results.

Paziente ad alto rischio clinico – biologico di recidiva: HLA Typing, pre-CAR-T infusion

AGENDA

ALLOGENIC HSCT in NHL

ALLOGENEIC HSCT IN HD

AUTOLOGOUS HSCT: IS THERE A BETTER CONDITIONING REGIMEN?

Final Clinical Practice Consensus Statements for Salvage Therapy and HCT Following Relapse after First-Line Therapy for Classical Hodgkin Lymphoma

Consensus Statement	Grading of Recommendations*	Percentage of Panelists in Agreement
1. The panel advocates fertility preservation for all patients (who desire it) prior to salvage therapy if clinically feasible.	A	100%
2. The panel recommends auto-HCT as consolidation	A	95%
7. The panel recommends BEAM or CBV conditioning regimens for auto-HCT.	B	89%
8. The panel does not recommend allo-HCT over an initial auto-HCT for high-risk patients defined as primary refractory to chemotherapy or novel agents within 6 mo of frontline therapy.	C	100%
9. The panel recommends radiation oncology consultation for patients with unirradiated bulky disease at relapse (ie, before responding to salvage regimens) for consideration of radiation consolidation (either before or after auto-HCT).	C	90%
CR.		
6. The panel recommends salvage regimens prior to auto-HCT that include novel agents (BV or CPI or a combination of novel agent(s) plus/minus a conventional chemotherapeutic, over chemotherapy alone regimens).	A	95%

Final Clinical Practice Consensus Statements for Maintenance Therapy Following Autologous Transplantation for Classical Hodgkin Lymphoma

Consensus Statement	Grading of Recommendations*	Percentage of Panelists in Agreement
1. The panel recommends up to 10 cycles of consolidation/maintenance with BV in patients with prior BV exposure (4-6 cycles) without evidence of BV refractory disease in HL postauto-HCT, contingent upon neuropathy monitoring results, in patients with one or more high-risk features as defined by the AETHERA [18] trial. • In BV naïve patients post auto-HCT consolidation/maintenance with BV for 16 cycles with at least 1 or more high-risk features as defined by the AETHERA study.	A	84%
2. The panel does not recommend post auto-HCT consolidation/maintenance with BV for HL with prior evidence of disease refractory to BV†.	C	100%
3. The panel recommends up to 8 cycles of consolidation/maintenance with CPI alone or in combination with BV postauto-HCT as an alternative for patients with high-risk disease or who are not able to receive BV†.	B	79%
4. The panel recommends maintenance in patients who have had prior exposure to novel agents if they previously attained a response.	C	80%

Ahmedetal S. et al, TCT 2026

Final Clinical Practice Consensus Statements for Allogeneic Transplantation for Classical Hodgkin Lymphoma

Consensus Statement	Grading of Recommendations*	Percentage of Panelists in Agreement
1. The panel recommends consultation for allo-HCT for eligible patients, post-BV and CPI exposure, with eligibility being defined as adequate organ function, performance status, and chemotherapy-sensitive disease prior to allo-HCT.	B	95%
2. The panel suggests reduced intensity conditioning for allo-HCT in most patients.	B	100%
3. The panel agrees all donor sources are considered equal for allo-HCT (matched sibling versus matched unrelated versus haploidentical).	B	100%
4. The panel recommends post-transplant cyclophosphamide for GVHD prophylaxis over tacrolimus/methotrexate based regimens.	A	100%
5. The panel recommends at least 30-60 days lapse from exposure to CPI prior to allo-HCT to decrease risk of GVHD (if clinically feasible).	B	95%

Ahmedetal S. et al, TCT 2026

RESULTS OF ALLOGENEIC HSCT & TREATMENT RELAPSE IN HODGKIN LYMPHOMA

Disease status pre-allo-HCT	NRM (%)	OS at 3 years (%)	PFS at 3 years (%)
Chemosensitive disease	15–20	60–70	40–50
Chemorefractory disease	20–30	40–50	20–30

DLI alone	ORR 33–54%
DLI + brentuximab vedotin DLI + bendamustine	ORR 69% (CR 54%/PR 15%), PFS 5.5 months ORR 55% (CR 16%/39%), PFS 6 months
Brentuximab vedotin (Gopal et al. 2012)	ORR 50–69% CR 31–38%/PR 37% Median PFS 7–8 months
Nivolumab (Herbaux et al. 2017)	ORR 77–95% CR 42–55%/PR 40–52% 1-year PFS 58%

Handbook EBMT 2024

blood®
Regular Article

TRANSPLANTATION

CME Article

Outcomes of allogeneic HCT in Hodgkin lymphoma in the era of checkpoint inhibitors: a joint CIBMTR and EBMT analysis

Miguel-Angel Perales,[1,2] Farrukh T. Awan,[3] Ariane Boumendil,[4] Jinalben Patel,[5] Luca Castagna,[6] Emanuele Angelucci,[7] Herve Finel,[4]

Study period 2008 – 2023
2186 adult patients aged >18 years
first allo-HCT
Donor:matched related, unrelated, or haploidentical
Twenty-seven percent of patients received prior CPIs.

AIM: Imapct of CPI on allogeneic HSCT outcomes

PERALES et al, Blood 2025

Characteristic	ALL	CPI	No prior CPI	*P* value
No. of patients	N = 2186	n = 600	n = 1586	
Data source, n (%)				
CIBMTR	403 (18.4)	138 (23)	265 (16.7)	7.00E-04
EBMT	1783 (81.6)	462 (77)	1321 (83.3)	
Year of HCT, median (range)	2017 (2008-2023)	2019 (2015-2023)	2015 (2008-2023)	<.0001
FU of alive patients, median (IQR), mo	27.77 (12-60)	16.5 (5.1-33.6)	39 (12.8-73.1)	<.0001
Age, median (IQR), y	32.27 (25.9-41.3)	31.7 (26-41.4)	32.4 (25.7-41.3)	.6632
Sex, n (%)				
Female	849 (38.9)	205 (34.2)	644 (40.6)	.0061
Male	1335 (61.1)	394 (65.8)	941 (59.4)	
Missing	2	1	1	
Donor type, n (%)				
Haploidentical donor	803 (36.7)	281 (46.8)	522 (32.9)	<.0001
HLA-identical sibling	730 (33.4)	159 (26.5)	571 (36)	
HLA-MUD	653 (29.9)	160 (26.7)	493 (31.1)	
Prior auto-HCT, n (%)				
No prior auto-HCT	634 (29)	226 (37.7)	408 (25.8)	<.0001
Prior auto-HCT	1549 (71)	374 (62.3)	1175 (74.2)	
Missing	3	0	3	
Disease status at HCT, n (%)				
Refractory	427 (19.5)	90 (15)	337 (21.2)	.003
CR	1074 (49.1)	307 (51.2)	767 (48.4)	
PR	605 (27.7)	187 (31.2)	418 (26.4)	
Unknown	75 (3.4)	15 (2.5)	60 (3.8)	
Untreated	5 (0.2)	1 (0.2)	4 (0.3)	
Time from last dose of CPI				
Median (range) [IQR], mo		10.1 (0.7-217.2) [5.6-22.9]		
Missing		53		
Conditioning, n (%)				
MAC	413 (18.9)	105 (17.5)	308 (19.4)	.3062
RIC/NMA	1773 (81.1)	495 (82.5)	1278 (80.6)	
GVHD prevention, n (%)				
CNI + MMF ± other(s) (except post-Cy)	528 (24.2)	119 (19.8)	409 (25.8)	<.0001
CNI + MTX ± other(s) (except MMF, post-Cy)	768 (35.1)	146 (24.3)	622 (39.2)	
Post-Cy ± other(s)	890 (40.7)	335 (55.8)	555 (35)	
Missing	0	0	0	

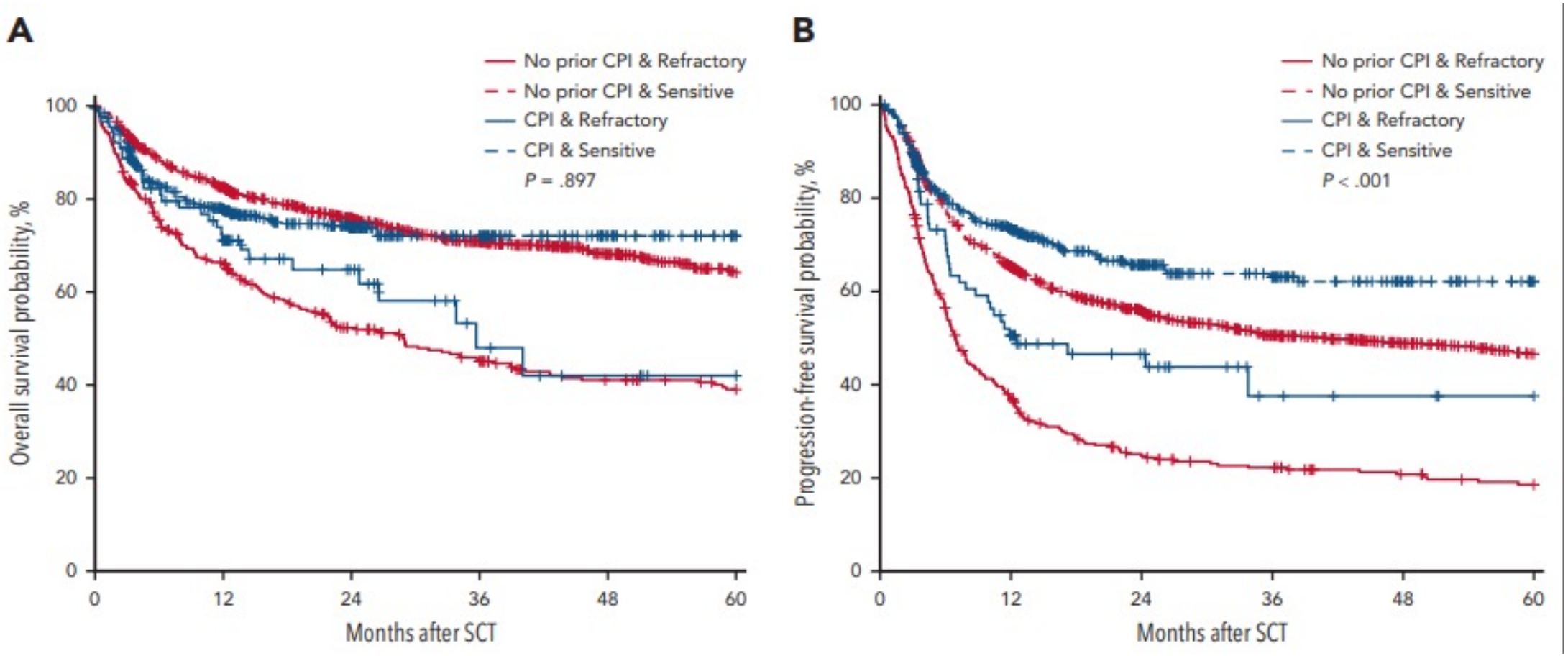
CPI group = 27%
More Refractory Disease and previuos AUTO-HSCT
More Haplo Donor
More PT-CY & HCT-I > 2

Characteristic	ALL	CPI	No prior CPI	*P* value
Race, n (%)				
Black or African American	34 (1.6)	14 (2.3)	20 (1.3)	.0105
Missing	1828 (83.6)	477 (79.5)	1351 (85.2)	
Other	19 (0.9)	7 (1.2)	12 (0.8)	
White	305 (14)	102 (17)	203 (12.8)	
KPS, n (%)				
<90	482 (22.8)	126 (21.7)	356 (23.2)	.2946
≥90	1621 (76.7)	449 (77.4)	1172 (76.4)	
Not reported	11 (0.5)	5 (0.9)	6 (0.4)	
Missing	72	20	52	
HCT-CI, n (%)				
0	984 (45)	300 (50)	684 (43.1)	<.0001
1-2	322 (14.7)	118 (19.7)	204 (12.9)	
≥3	362 (16.6)	143 (23.8)	219 (13.8)	
Missing	518 (23.7)	39 (6.5)	479 (30.2)	

PERALES et al, Blood 2025

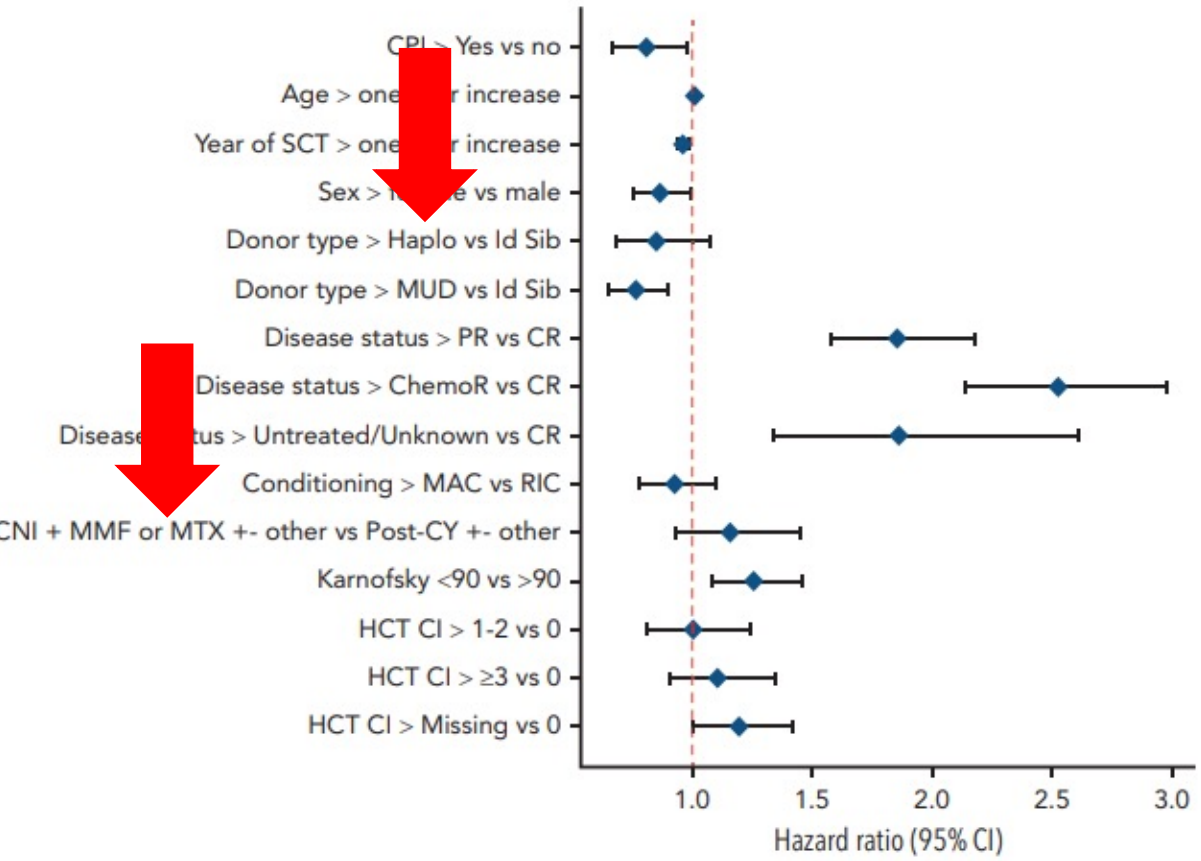
Outcome	All patients N = 2186 (95% CI)	CPI n = 600 (95% CI)	No prior CPI n = 1586 (95% CI)	*P* value
OS				
At 100 d	91% (89-92)	89% (87-92)	91% (90-93)	.439
At 6 m	85% (83-86)	83% (79-86)	86% (84-88)	
At 12 m	78% (76-80)	76% (73-80)	79% (77-81)	
PFS				
At 100 d	86% (84-87)	87% (84-90)	85% (83-87)	<.001
At 6 m	74% (72-76)	78% (75-82)	72% (70-75)	
At 12 m	61% (58-63)	69% (65-74)	58% (55-60)	
CI of relapse				
At 100 d	7% (6-9)	4% (3-6)	9% (7-10)	<.001
At 6 m	15% (13-17)	8% (6-10)	18% (16-20)	
At 12 m	25% (23-27)	13% (10-16)	29% (27-32)	
NRM				
At 100 d	7% (6-8)	9% (6-11)	6% (5-8)	.0277
At 6 m	11% (10-12)	14% (11-17)	10% (8-12)	
At 12 m	15% (13-16)	18% (14-21)	13% (12-15)	
CI of engraftment				
At 30 d	97% (96-97)	96% (94-98)	97% (96-98)	.3673
At 100 d	98% (98-99)	98% (97-99)	98% (98-99)	
aGVHD 2-4*				
At 30 d	19% (18-21)	26% (23-30)	17% (15-19)	<.001
At 100 d	31% (29-33)	40% (36-44)	27% (25-30)	
aGVHD 3-4*				
At 30 d	8% (6-9)	12% (9-15)	6% (5-7)	<.001
At 100 d	11% (10-13)	16% (13-19)	9% (8-11)	
cGVHD*				
At 100 d	5% (4-6)	5% (3-7)	5% (4-7)	.1514
At 6 m	21% (19-22)	21% (17-25)	20% (18-23)	
At 12 m	33% (31-35)	31% (27-35)	34% (31-37)	

PERALES et al, Blood 2025

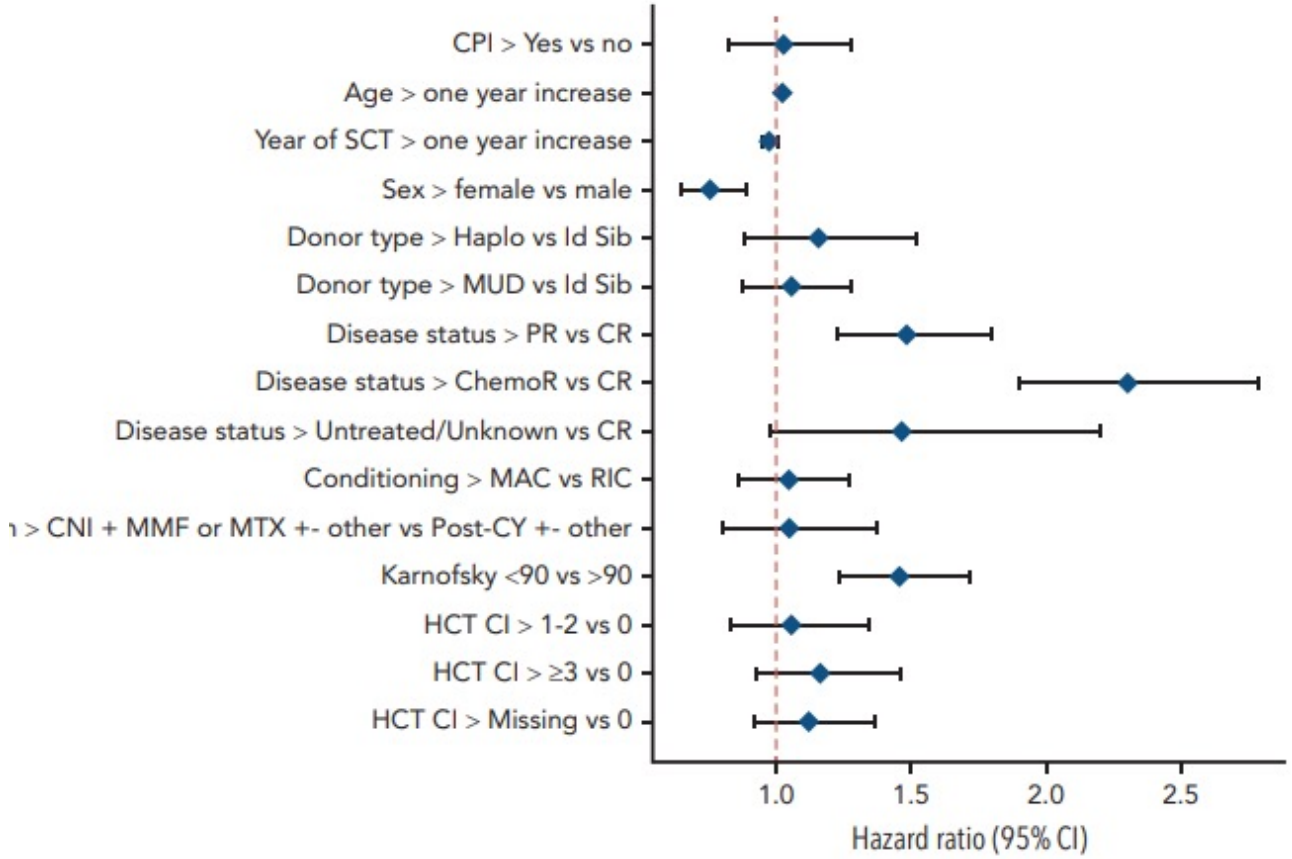


PERALES et al, Blood 2025

PFS


CPI > Yes vs no
Age > one
r increase
Year of SCT > one
r increase
Sex >
e vs male
Donor type > Haplo vs Id Sib
Donor type > MUD vs Id Sib
Disease status > PR vs CR
Disease status > ChemoR vs CR
Disease
us > Untreated/Unknown vs CR
Conditioning > MAC vs RIC
CNI + MMF or MTX +- other vs Post-CY +- other
Karnofsky <90 vs >90
HCT CI > 1-2 vs 0
HCT CI > ≥3 vs 0
HCT CI > Missing vs 0
1.0
1.5
2.0
2.5
3.0
Hazard ratio (95% CI)

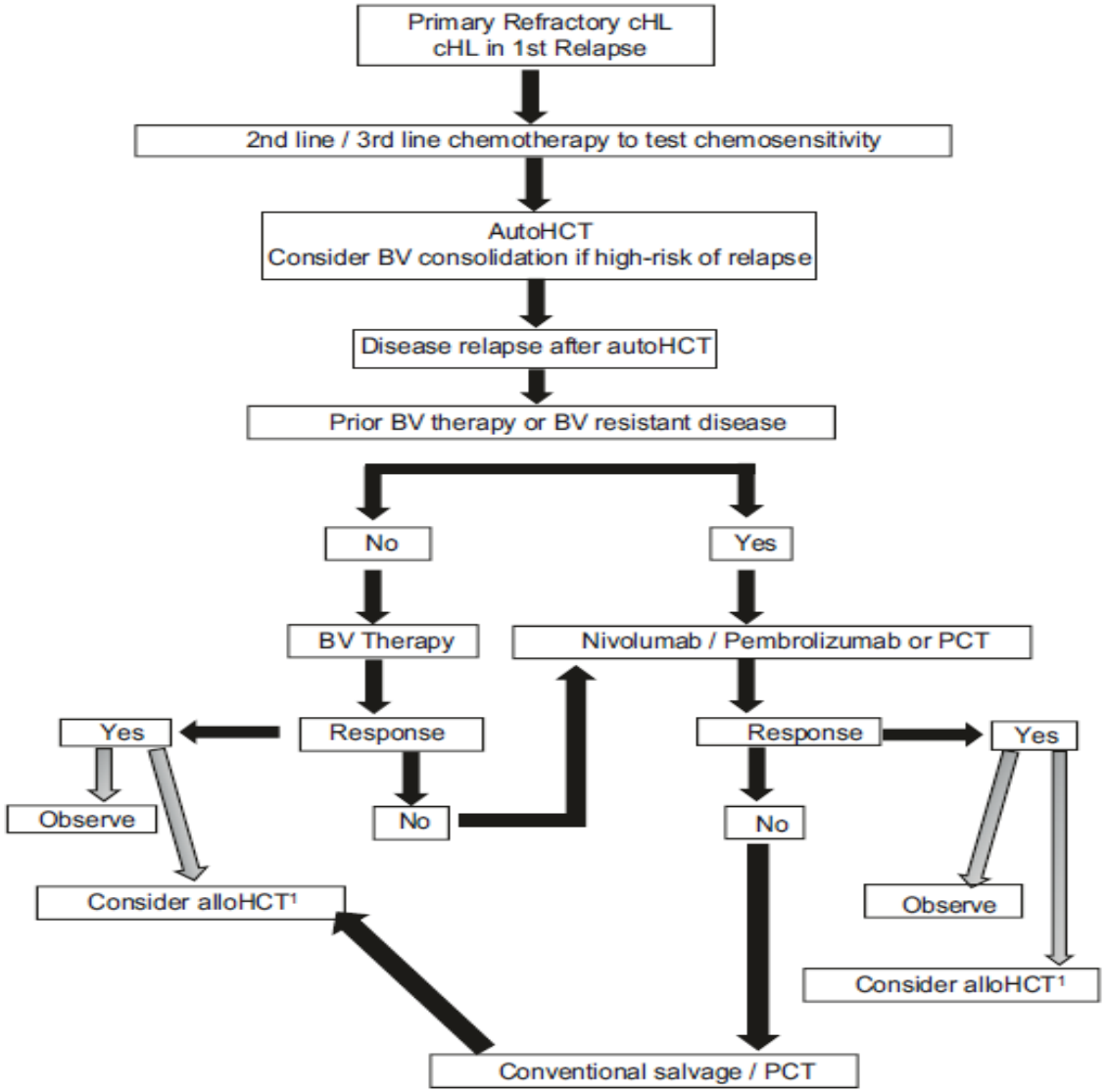
OS


CPI > Yes vs no
Age > one year increase
Year of SCT > one year increase
Sex > female vs male
Donor type > Haplo vs Id Sib
Donor type > MUD vs Id Sib
Disease status > PR vs CR
Disease status > ChemoR vs CR
Disease status > Untreated/Unknown vs CR
Conditioning > MAC vs RIC
> CNI + MMF or MTX +- other vs Post-CY +- other
Karnofsky <90 vs >90
HCT CI > 1-2 vs 0
HCT CI > ≥3 vs 0
HCT CI > Missing vs 0
1.0
1.5
2.0
2.5
Hazard ratio (95% CI)

HODGKIN LYMPHOMA: REMARKS

- ✓ Auto-HCT is recommended as consolidation for patients who fails CR but does reach PR with low tumor burden or in cases where novel agent have already been exhausted. (A)
- ✓ Maintenance Therapy after auto-HSCT: 10 cycles of BV in pts with previous exposure and 16 cycles in naïve patients (A). No maintenance in BV refractory pts
- ✓ Allogeneic HSCT indication: sensitive relapses after auto-HSCT >>>HLA Typing for patients in PR at auto-HSCT or at relapse in pts who received auto-HSCT in CR
- ✓ Prior exposure to CPIs is associated with increased progression free survival due to decreased relapse after HCT, suggesting increased graft-versus lymphoma.
- ✓ PTCy–based GVHD prophylaxis resulted in improved OS, lower grade 2 to 4 aGVHD, and cGVHD in patients with prior CPI exposure.
- ✓ Recommended time interval between CPIi and Allogeneic HSCT : at least 30 days, better 60 days

Therapeutic Algorithm Recommended by EBMT panel (Yethava et al. 2024)



AGENDA

ALLOGENIC HSCT in NHL

ALLOGENEIC HSCT IN HD

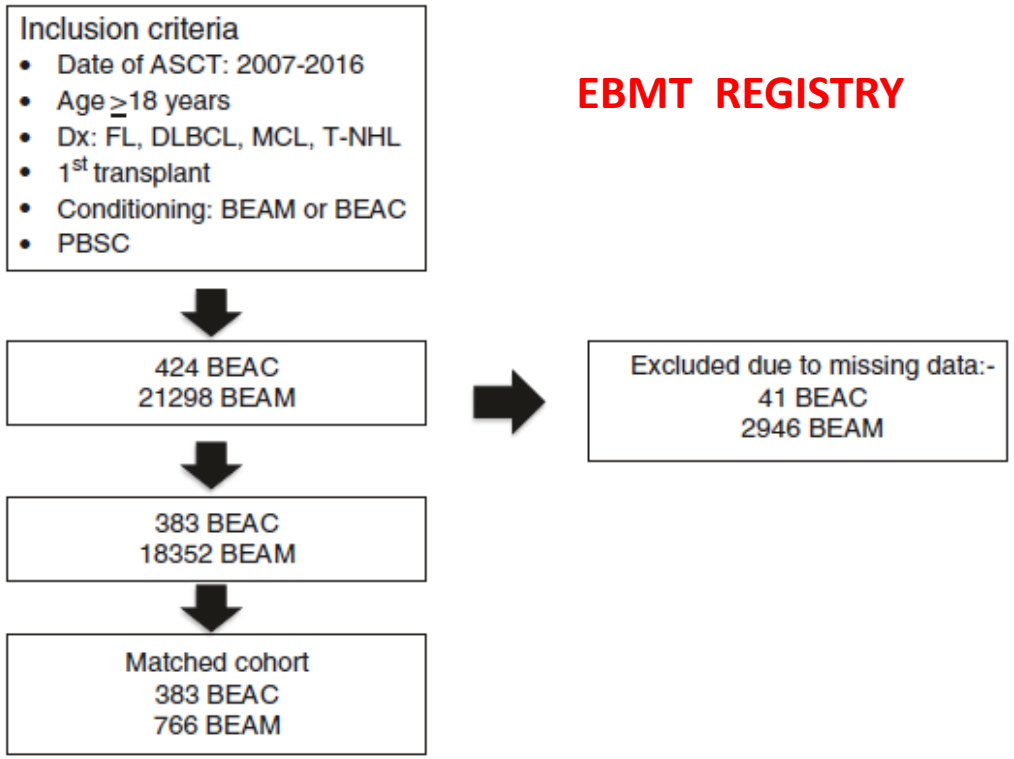
AUTOLOGOUS HSCT: IS THERE A BETTER CONDITIONING REGIMEN?

Bone Marrow Transplantation (2018) 53:1553–1559
https://doi.org/10.1038/s41409-018-0196-3

ARTICLE

High-dose therapy with BEAC conditioning compared to BEAM conditioning prior to autologous stem cell transplantation for non-Hodgkin lymphoma: no differences in toxicity or outcome. A matched-control study of the EBMT-Lymphoma Working Party

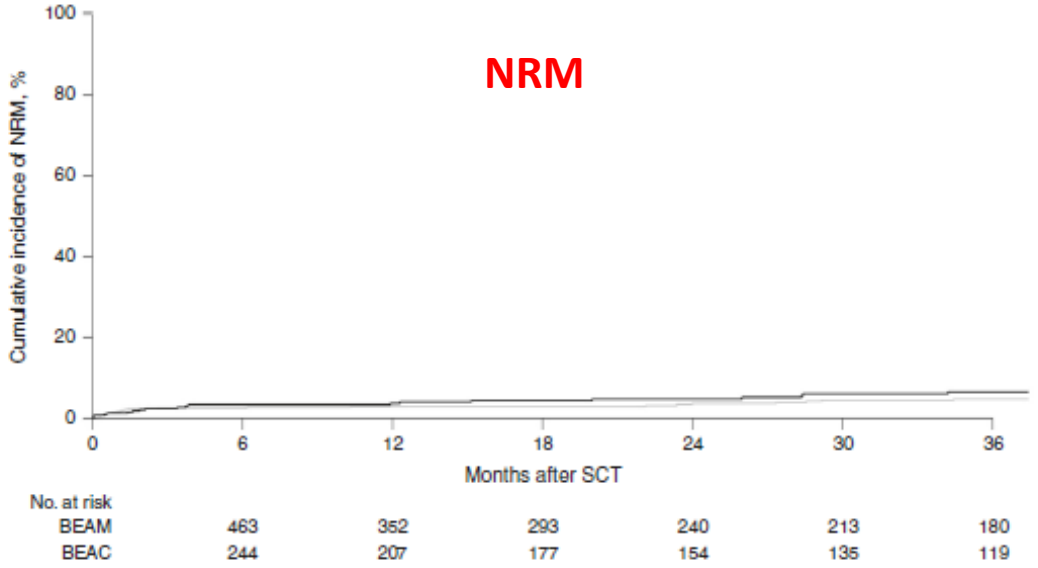
Stephen Paul Robinson[1] · Ariane Boumendil[2] · Herve Finel[2] · Peter Dreger[3] · Anna Sureda[4] · Olivier Hermine[5] · Silvia Montoto[6]



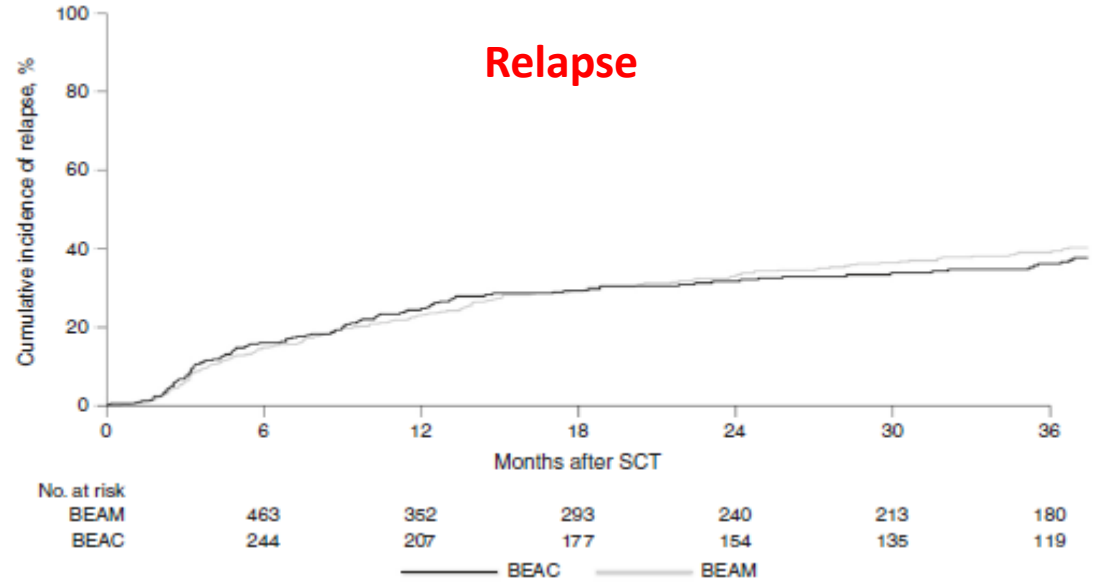
EBMT REGISTRY

	BEAC (n = 383)	BEAM (n = 766)
Age at ASCT, median (range)	58 (19–73)	58 (18–76)
Gender, n (%)		
Male	253 (66)	506 (66)
Female	130 (34)	260 (34)
Time from diagnosis to ASCT, median (range)	11.5 months (2.3–227)	11.7 months (0.9–238)
Lymphoma subtype, n (%)		
DLBCL	159 (41.5)	318 (41.5)
FL	74 (19.3)	148 (19.3)
MCL	121 (31.6)	242 (31.6)
PTCL	29 (7.6)	58 (7.6)
Performance status at ASCT, n (%)		
Good	351 (91.6)	702 (91.6)
Poor	6 (1.6)	12 (1.6)
Not known	26 (6.8)	52 (6.8)
Disease status at ASCT, n (%)		
CR1/PR1	196 (51.2)	392 (51.2)
CR/PR>1	92 (24.0)	184 (24.0)
CR unknown	27 (7.1)	54 (7.1)
PR unknown	15 (3.9)	30 (3.9)
Primary refractory	7 (1.8)	14 (1.8)
Relapse/progression	46 (12.0)	92 (12.0)

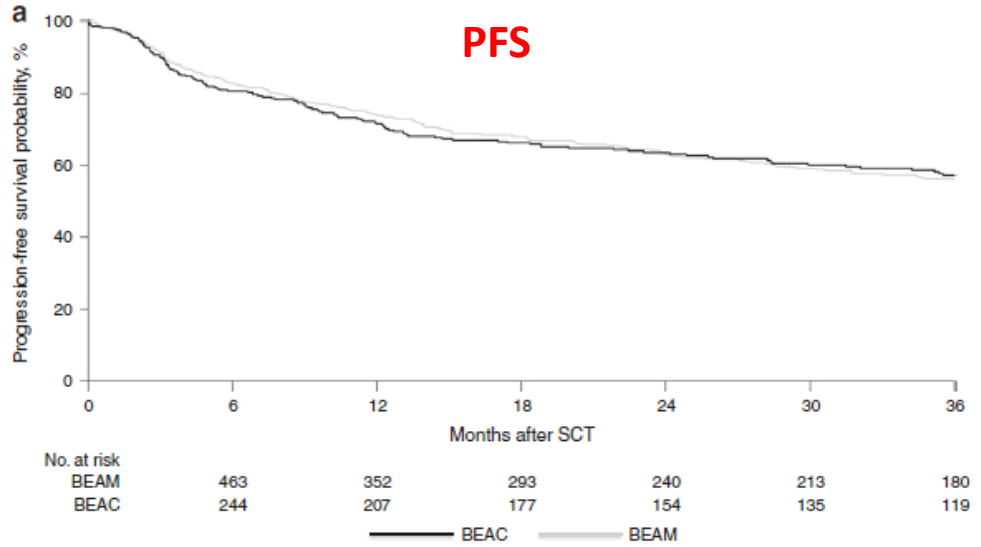
NRM



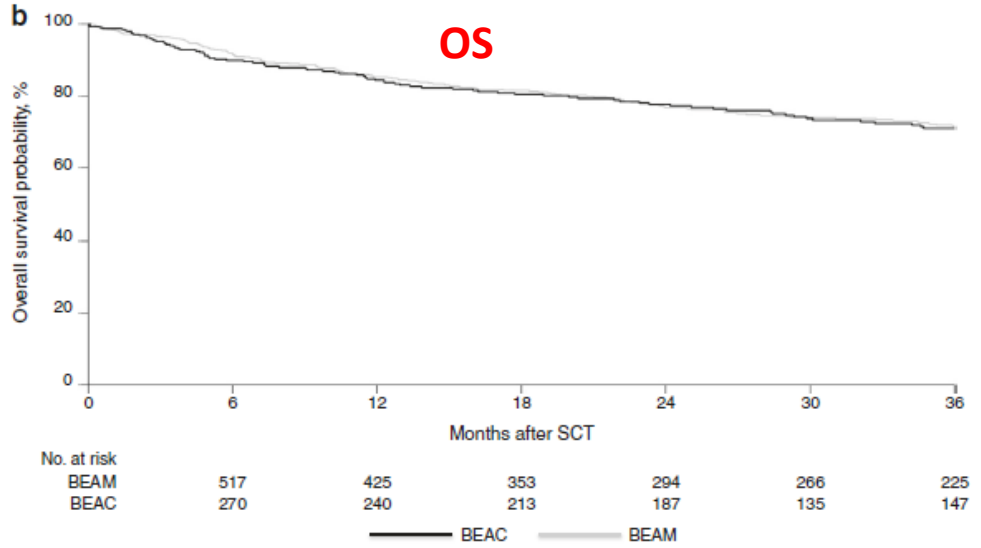
Relapse



PFS



OS



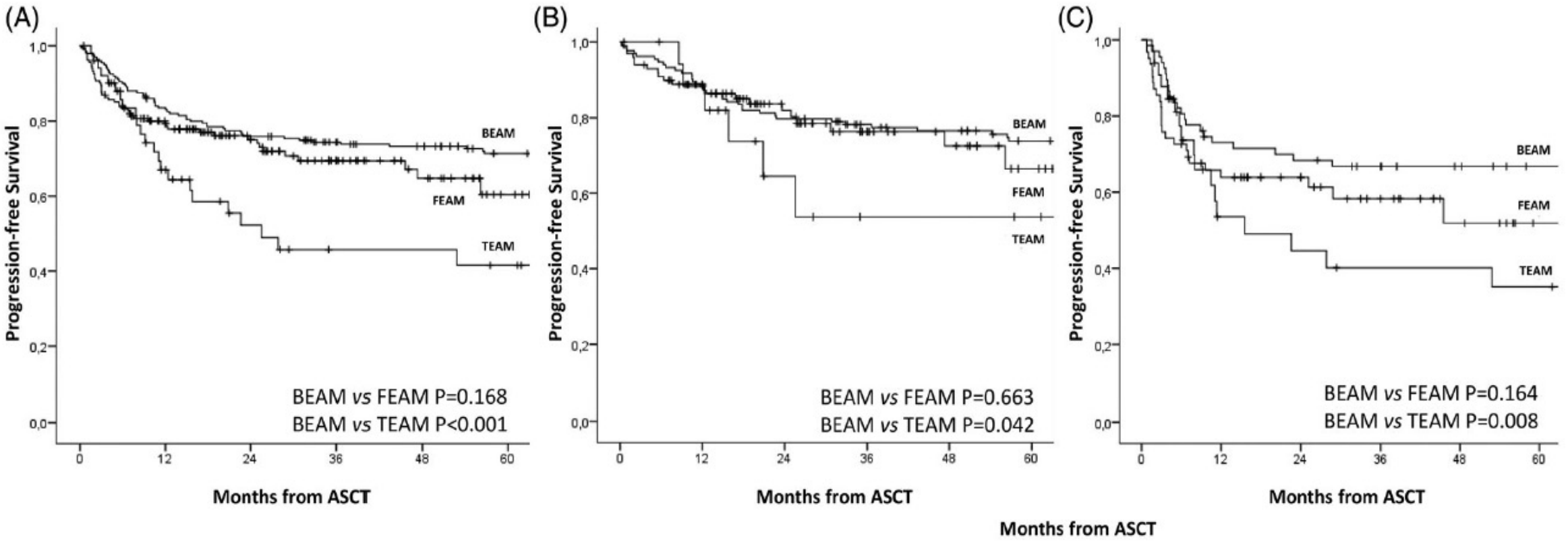
Robinson SP, BMT 2018

BEAM conditioning regimen ensures better progression-free survival compared with TEAM but not with FEAM in lymphoma patients undergoing autologous stem cell transplant

Francesco Marchesi[a], Saveria Capria[b], Mariangela Pedata[c], Irene Terrenato[d], Laura Ballotta[b], Cira Riccardi[c], Elena Papa[a], Costantino Riemma[b], Silvia Trisolini[b], Maria Celentano[c], Giulia Regazzo[e], Felicetto Ferrara[f], Andrea Mengarelli[a] and Alessandra Picardi[c]

Characteristics	BEAM ($n = 200$)	FEAM ($n = 162$)	TEAM ($n = 52$)	p
Median age (range)	47 (15–69)	49 (15–69)	42 (23–66)	NS
Sex M/F	118/82	100/62	28/24	NS
Diagnosis (%)				NS
HL	55 (27.5)	45 (27.8)	24 (46.2)	
B-NHL	123 (61.5)	93 (57.4)	24 (46.2)	
T-NHL	22 (11)	24 (14.8)	4 (7.7)	
Median number of previous treatments (range)	2 (1–5)	2 (1–6)	2 (1–5)	NS
Timing of transplant (%)				NS
After first-line	30 (15)	42 (25.9)	3 (5.8)	
After first salvage treatment	130 (65)	83 (51.2)	31 (60)	
≥3 prior lines	40 (20)	37 (22.9)	18 (34.2)	
Disease status al transplant (%)				.001
CR	133 (66.5)	100 (61.7)	19 (36.5)	
1° CR	*24*	*31*	*13*	
≥2° CR	*119*	*69*	*6*	
PR	58 (29)	59 (36.4)	29 (55.8)	
SD/PD	9 (4.5)	3 (1.9)	4 (7.7)	
PS by Karnofsky scale (%)				NS
≥80%	182 (91)	148 (91.4)	52 (100)	
<80%	18 (9)	14 (8.6)	0 (0)	
Median CD34+ infused cells x 10o6/kg (range)	4.8 (2.2–28.5)	4.7 (2.2–17.9)	6.18 (3.5–13)	NS

PFS



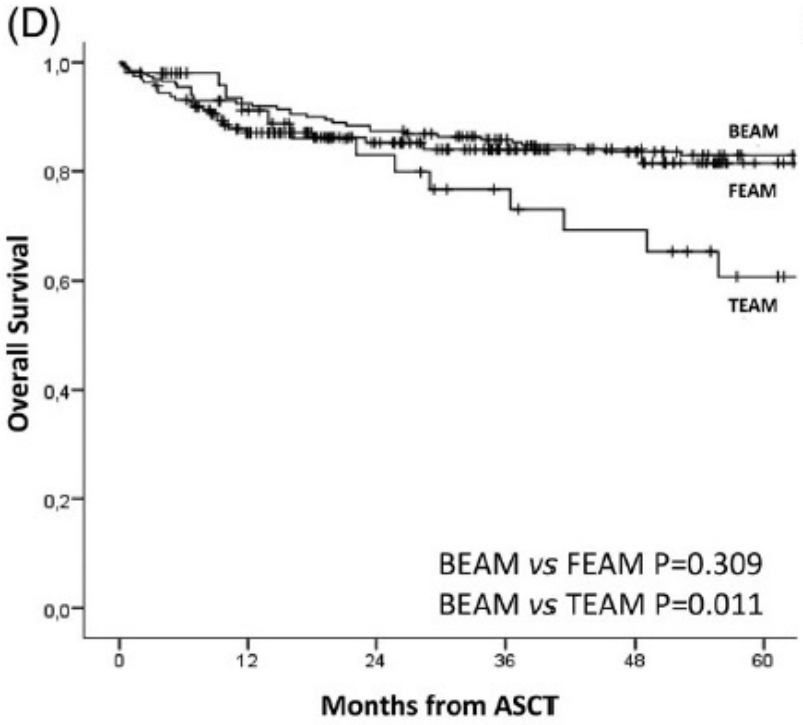
PFS for all patients (A), 5 y-PFS for patients in CR at transplant time (B), 5 y-PFS for patients with uncontrolled disease at transplant time (C) by received conditioning regimen.

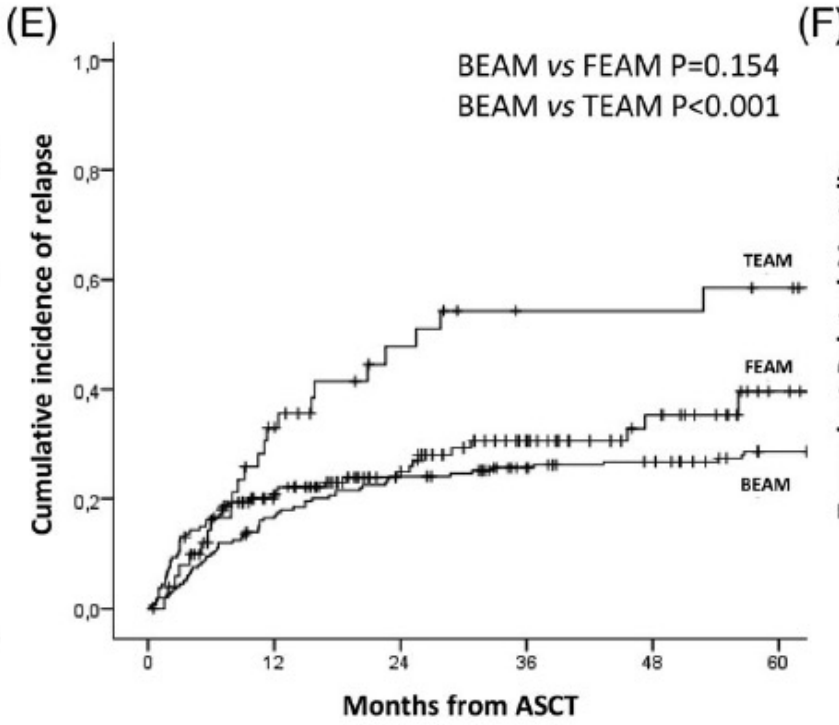
Marchesi F et al, Leukemia and Lymphoma 2020

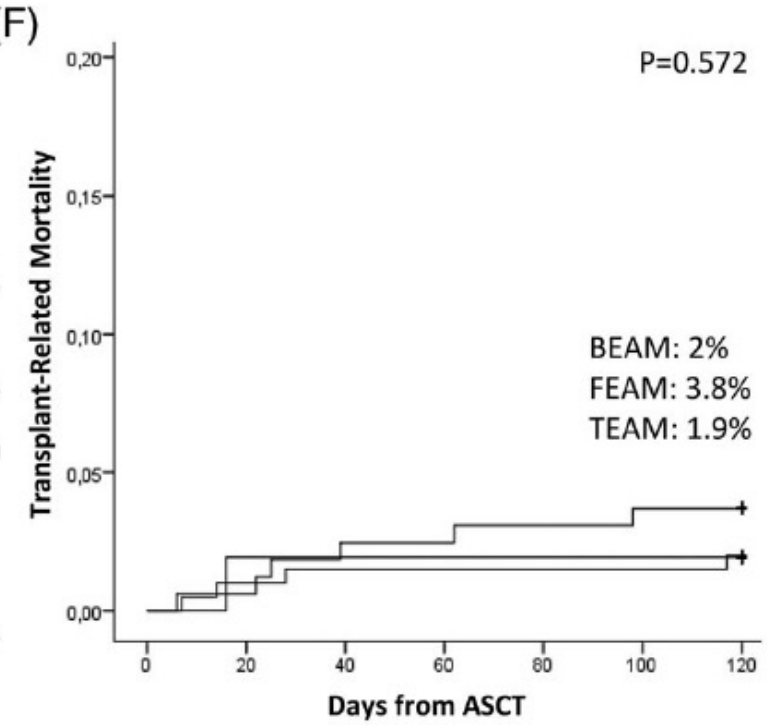
OS

RELAPSE

NRM





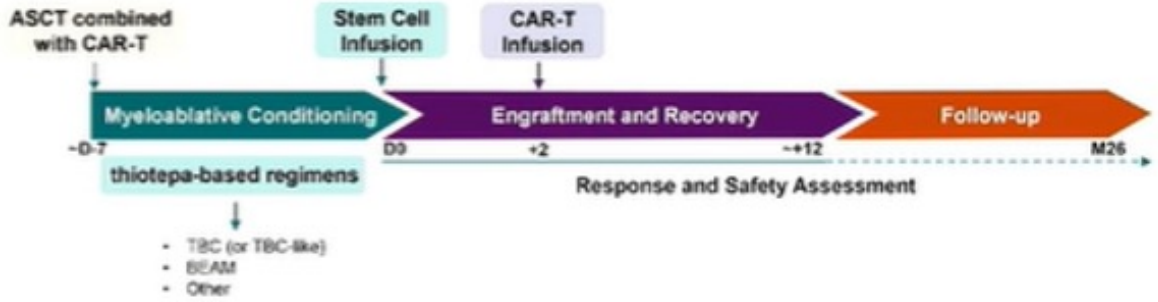


Marchesi F et al, Leukemia and Lymphoma 2020

REMARKS AND «THE UNSPOKEN THINGS»

B-NHL: Allogeneic HSCT and Transplant Consultancy should be considered for R/R patients at high risk of CAR-T failure/relapse

Primary Central Nervous System B-NHL:

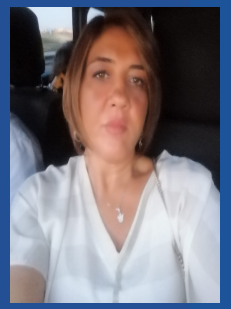


T – Lymphomas = advanced stage of CTCL or high CLIPI needs allogeneic HSCT

PTCL= Auto-HSCT in CR1 (IPI >1); CR ≥2; Allogeneic-HSCT in CR ≥2, relapse post auto HCT

Burkitt LymphomaS: ICR> no HSCT but consider Autologous as bridge to allogeneic HSCT in PR

TRANSPLANT PROGRAM of AORN CARDARELLI : CLINICAL UNIT STAFF


Nurse


Nurse


Nurse


PT Quality Manager


Nurse


Nurses


Psychologist


Nurse


Nurse

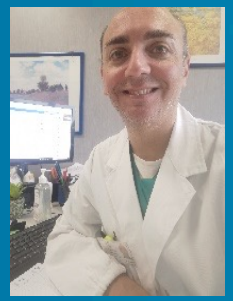

Dott.ssa Migliaccio


Dott.ssa Celentano
Dott.ssa Riccardi


Dott.ssa Marotta

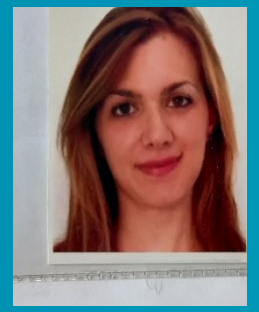

Dott.ssa Pedata


Dott.ssa Picardi


Dr. Buonanno
CPSE


Dott.ssa Leone


Dott.ssa Luise


Dott.ssa Carobene


Nurse

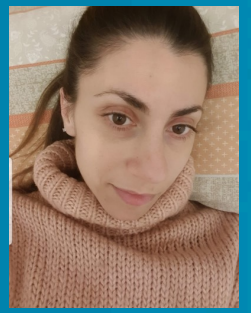

Nurse

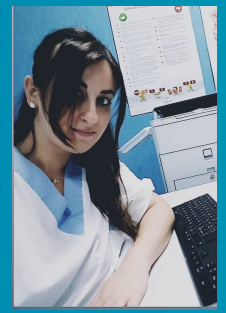

Cleaning


health workers


Nurse


Nurse


Cleaning


health workers


health workers