

NON-MYELOABLATIVE CONDITIONING REGIMEN BEFORE  
T-CELL REPLETE HAPLOIDENTICAL TRANSPLANTATION  
WITH POST-TRANSPLANT CYCLOPHOSPHAMIDE  
FOR ADVANCED LYMPHOMA

DU 6 AU 8  
NOVEMBRE  
2019

19<sup>e</sup>  
CONGRÈS  
DE  
LA SFGM-TC

Cité des Congrès  
de Nantes

Dr Catalina Montes De Oca



INSTITUT PAOLI-CALMETTES

# ALLO-HSCT & LYMPHOMA

- ▶ EBMT standard of care for relapse after auto-HSCT or refractory disease

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# ALLO-HSCT & LYMPHOMA

- ▶ EBMT standard of care for relapse after auto-HSCT or refractory disease
- ▶ Several limits:
  1. Progression
  2. Feasibility
  - 3. DONOR AVAILABILITY**

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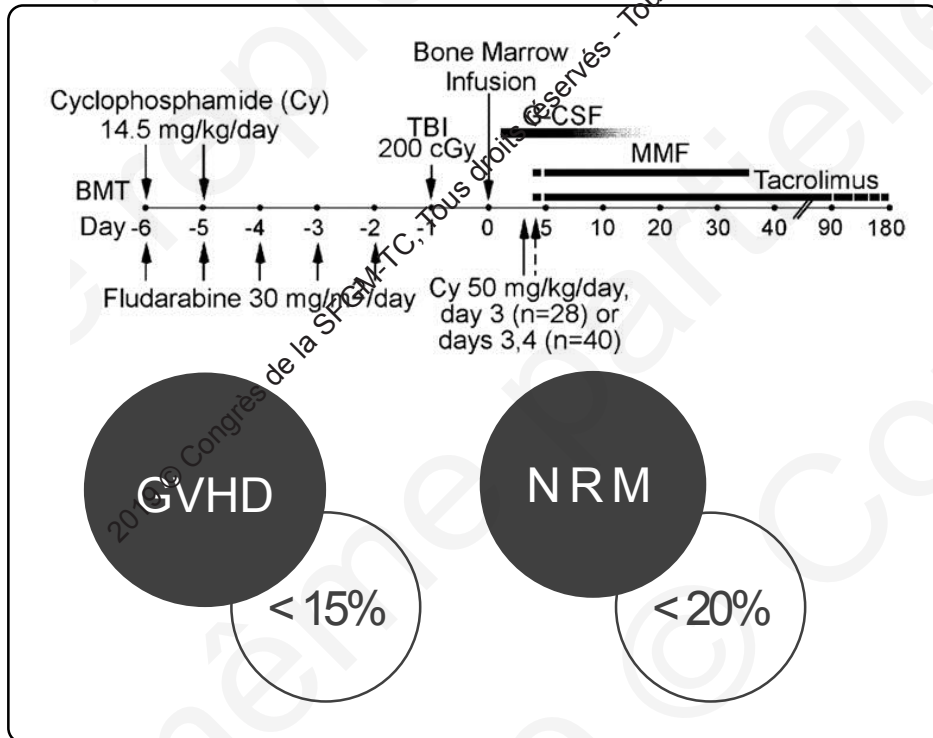
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HLA HAPLOIDENTICAL DONOR ?

# HLA HAPLOIDENTICAL HSCT

## ► NMAC + PT-Cy = Feasible

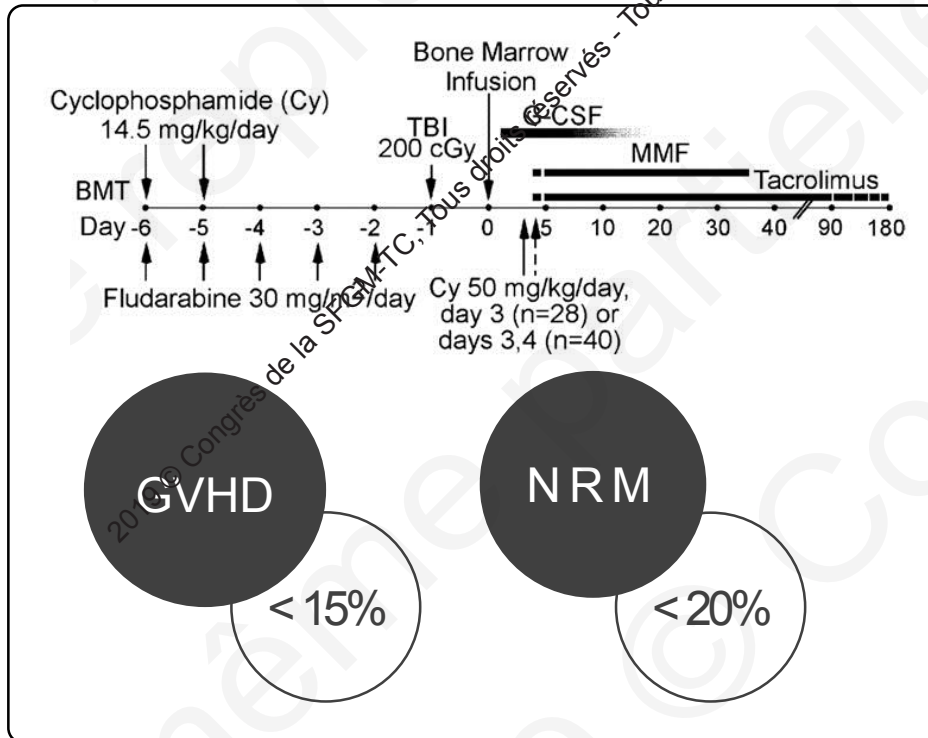
Luznik et al. BBMT. 2008



# HLA HAPLOIDENTICAL HSCT

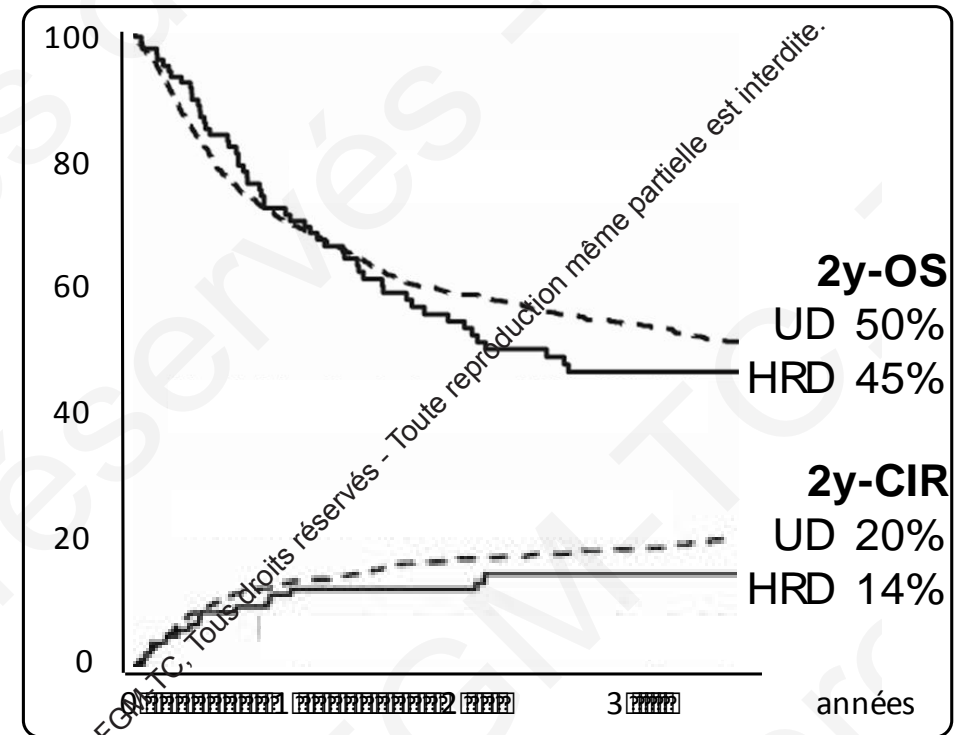
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## ▶ Similar outcome with UD-SCT

Ciurea et al. Blood, 2015



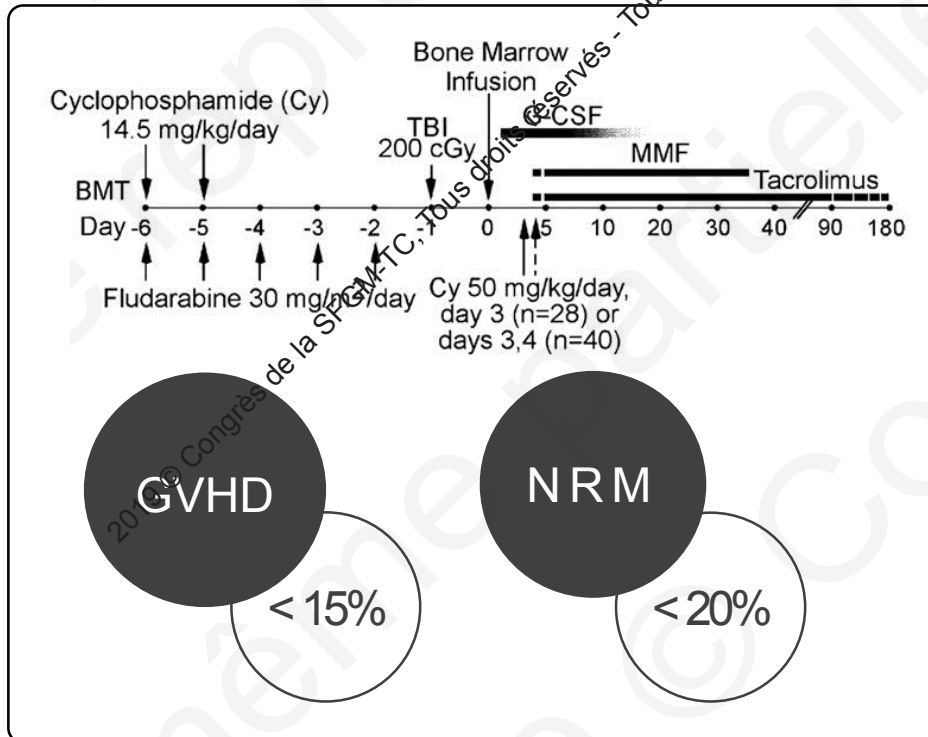
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# HLA HAPLOIDENTICAL HSCT

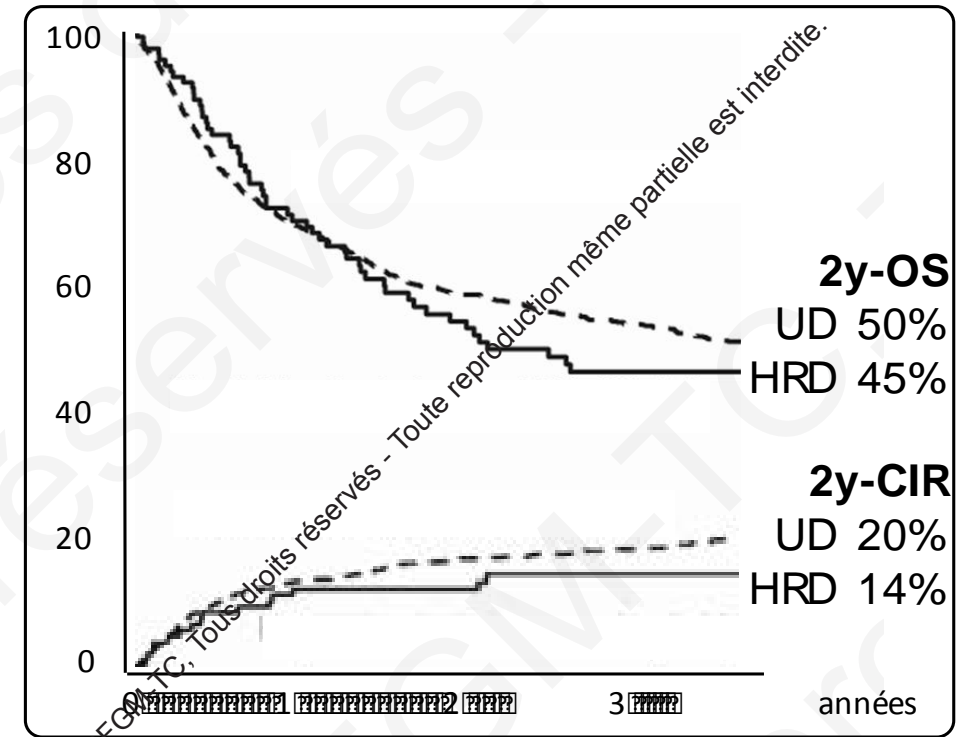
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Ciurea et al. Blood, 2015.

DOCUMENTED IN MYELOID DISEASE BUT STILL BE RELUCTANT IN LYMPHOMA ?

# HLA HAPLOIDENTICAL HSCT & LYMPHOMA

- ▶ Register study : **EBMT** (Martinez, 2017) & **CIBMTR** (Ghosh, 2016)

Haplo-SCT with PT-Cy is feasible and effective for lymphoma patients

- ▶ **Limits**

1. Heterogeneity of conditioning regimen
2. Different strategy of GVHD prophylaxis



# HLA HAPLOIDENTICAL HSCT & LYMPHOMA

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AIM : NMAC BEFORE HAPLO-SCT WITH PT-CY IN LYMPHOMA ?

# METHODS

147 PATIENTS  
HL & NHL

2009-2018  
IPC Marseille / ICH Milan

NMAC

TBI 2 Gy  
Fludarabine 150 mg/m<sup>2</sup>  
Cyclophosphamide 29 mg/kg

HAPLO-SCT + PT-Cy

UNIVARIATE ANALYSIS

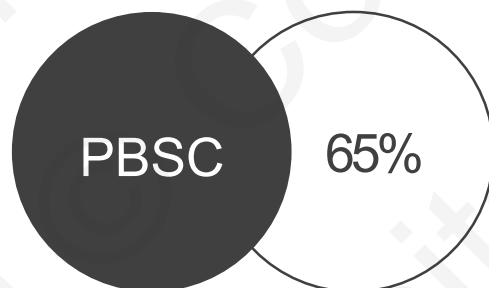
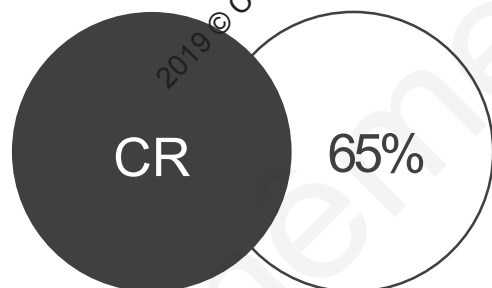
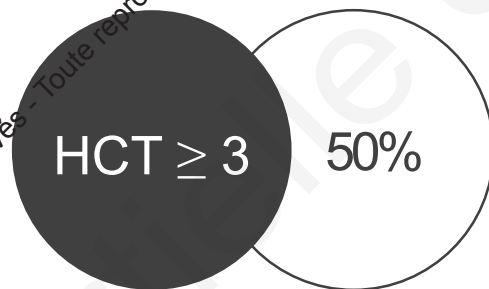
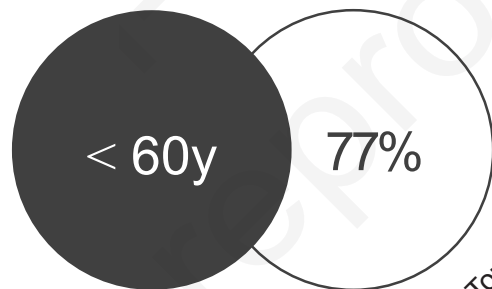
NRM / GVHD  
CIR  
OS / PFS / QoL

MULTIVARIATE ANALYSIS / COX MODEL

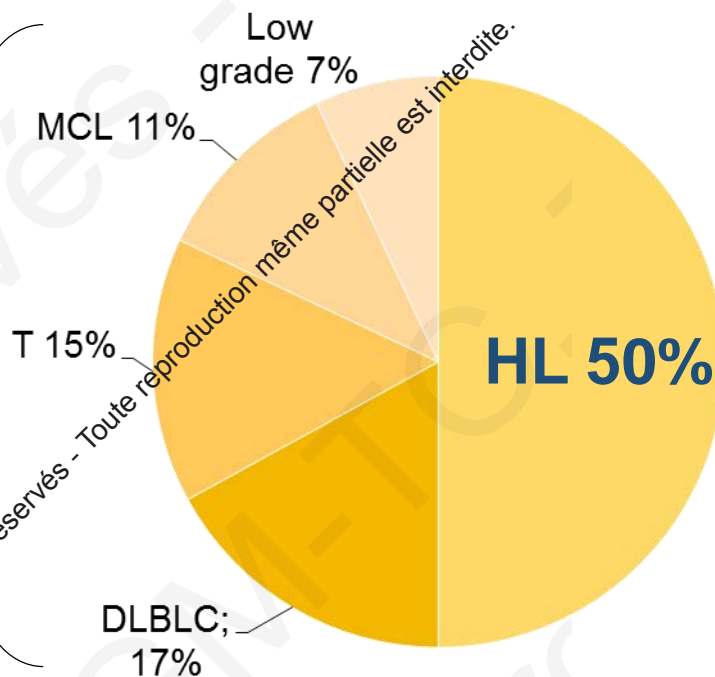
Adjusted on  
Age  
Stem Cell Source  
Subtype of lymphoma  
HCT-CI  
Disease status before HSCT

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# PATIENTS AND TRANSPLANTS CHARACTERISTICS



**NHL 50%**



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# GRAFT VERSUS HOST DISEASE

## ► Low incidence

d100 aGVHD

aGVHD 2-4 30%

aGVHD 3-4 3%

2y cGVHD

All 13%

moderate and severe 8%

# GRAFT VERSUS HOST DISEASE

► Low incidence

► No impact of stem cell source

d100 aGVHD

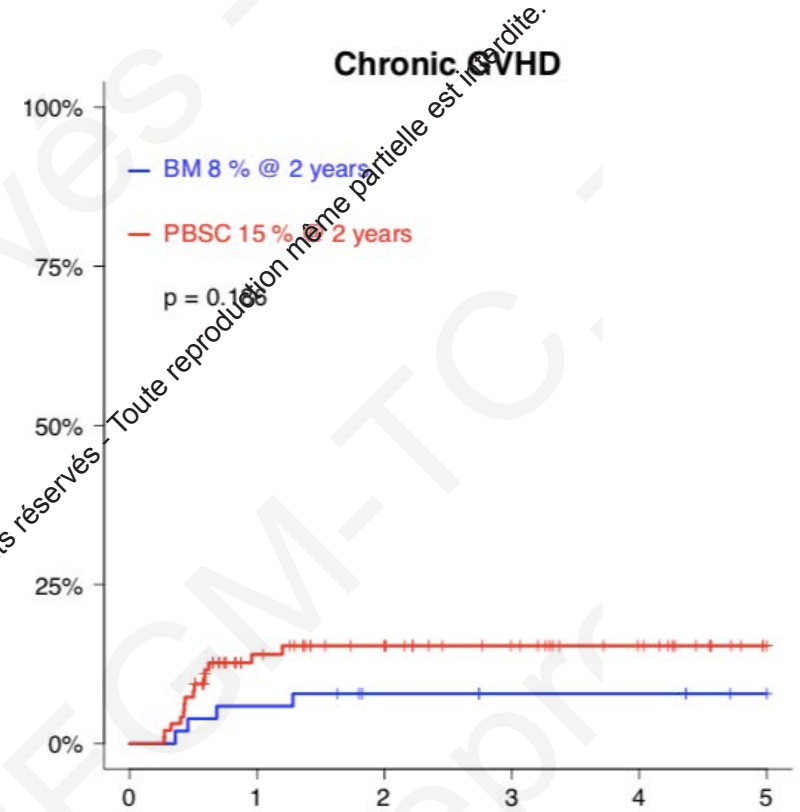
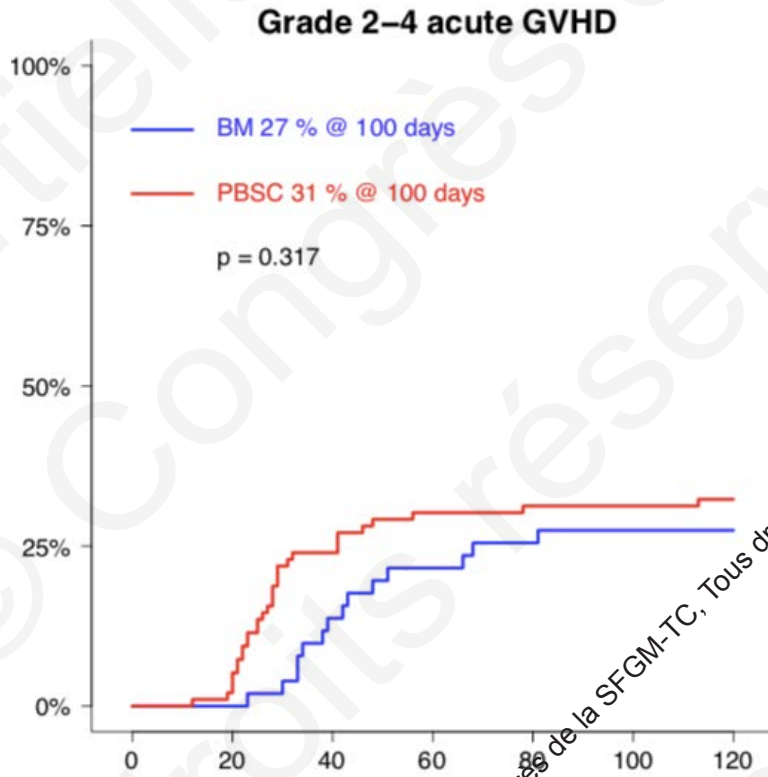
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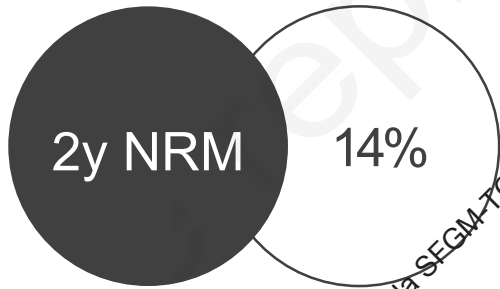
All 13%

moderate and severe 8%



# LOW GVHD IS ASSOCIATED WITH LOW NRM

- ▶ Low NRM

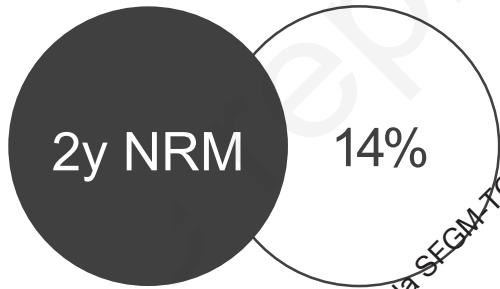


- ▶ Higher risk with HCT  $\geq 3$   
(22% vs 7%)

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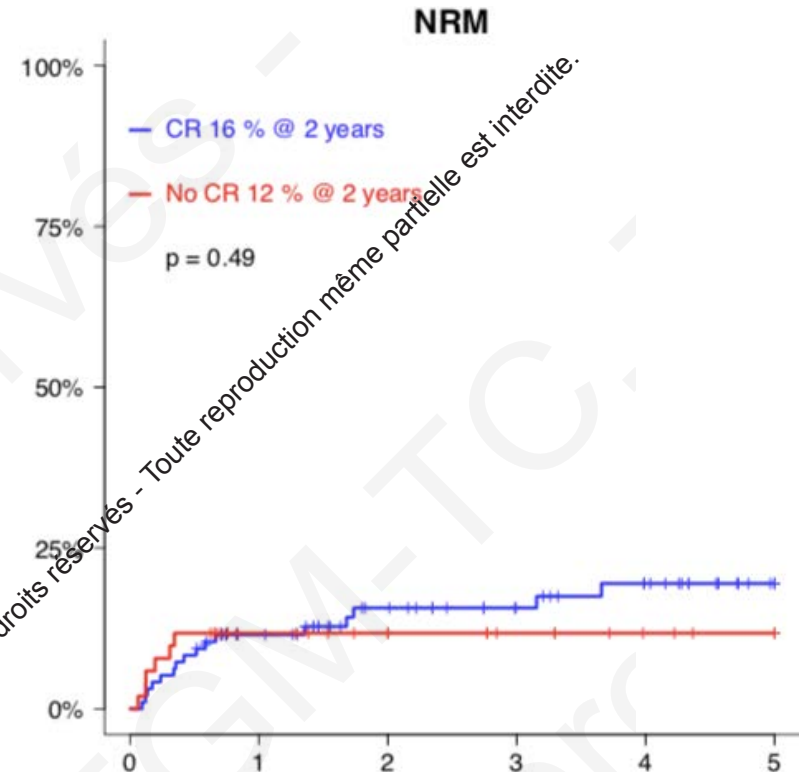
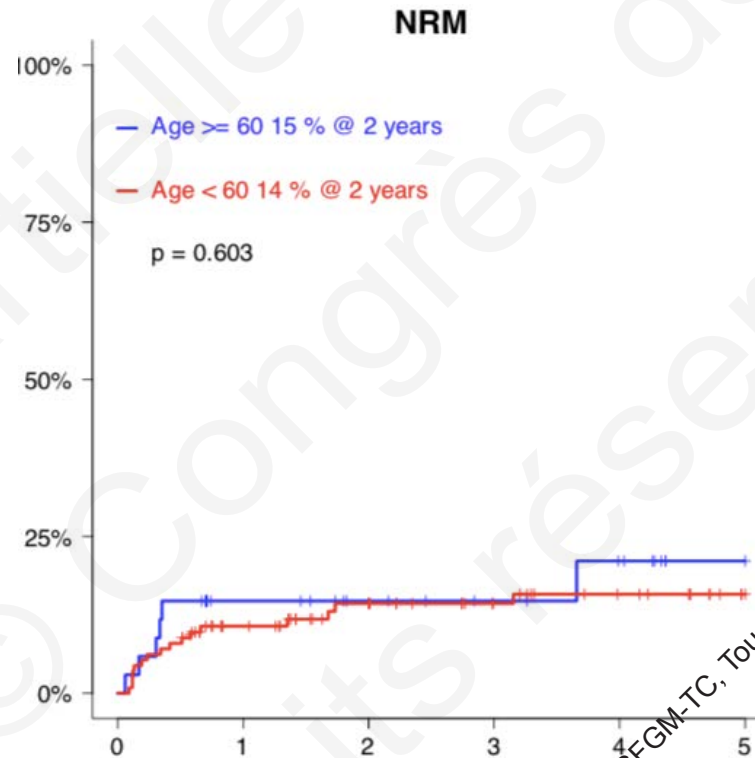
# LOW GVHD IS ASSOCIATED WITH LOW NRM

- ▶ Low NRM



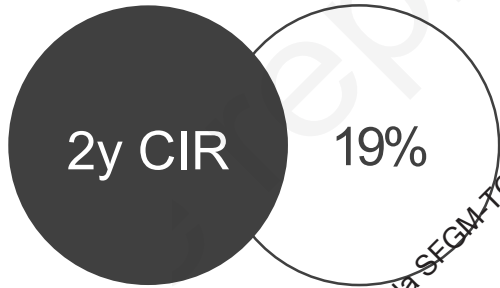
- ▶ Higher risk with HCT  $\geq 3$  (22% vs 7%)

- ▶ No impact of age & disease status

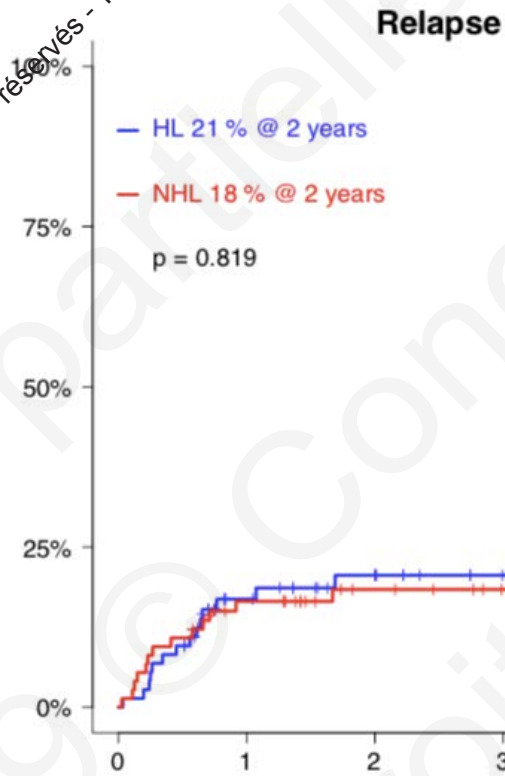


# CUMULATIVE INCIDENCE OF RELAPSE

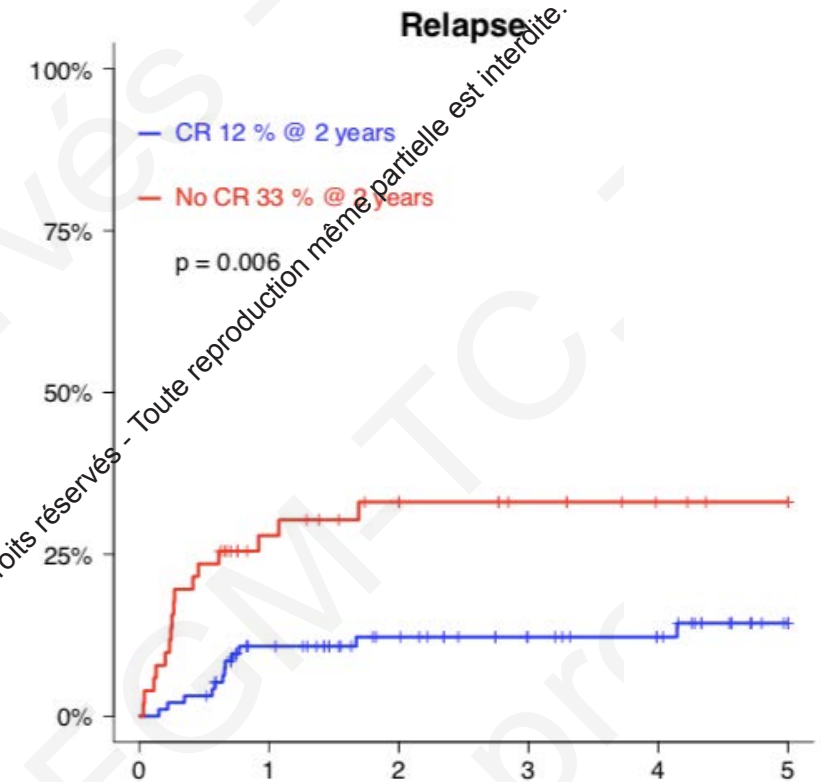
## ▶ Low CIR



## ▶ HL vs NHL



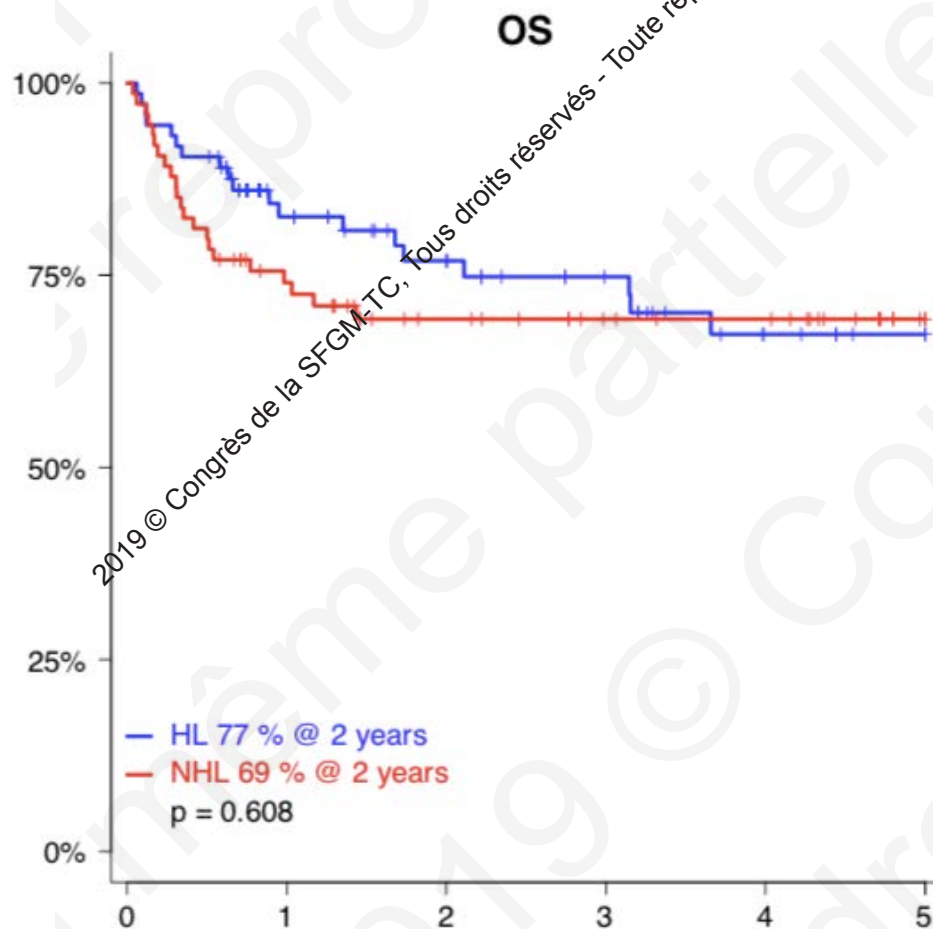
## ▶ Impact of disease status



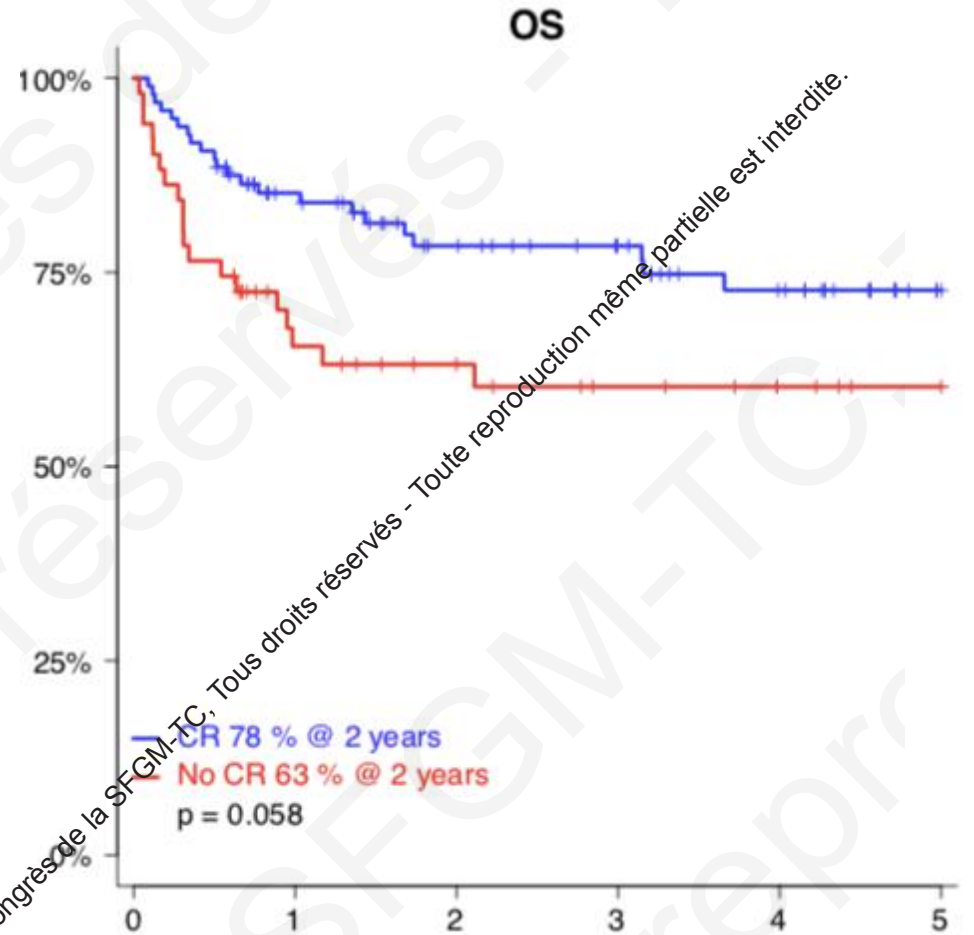


# OVERALL SURVIVAL

- ▶ No difference HL vs NHL

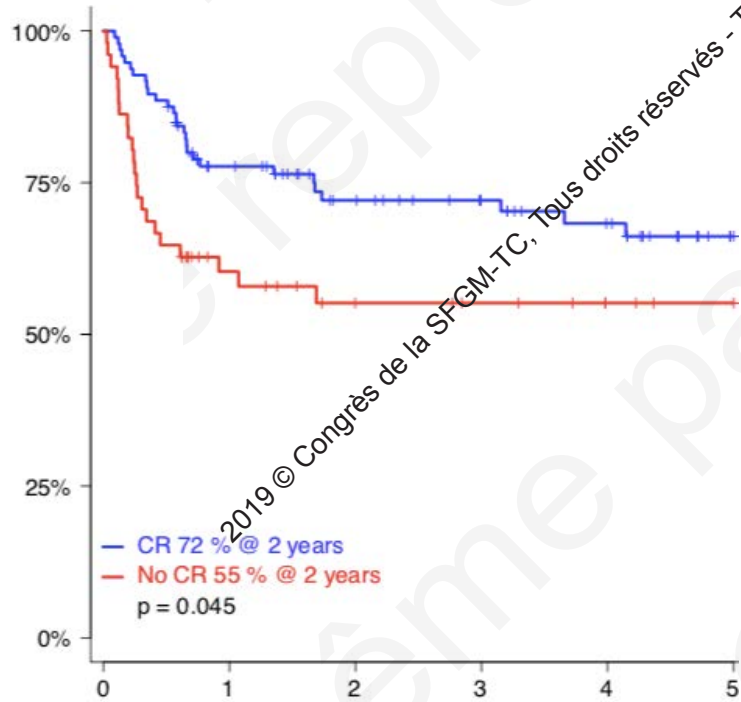


- ▶ Trend for impact of disease status

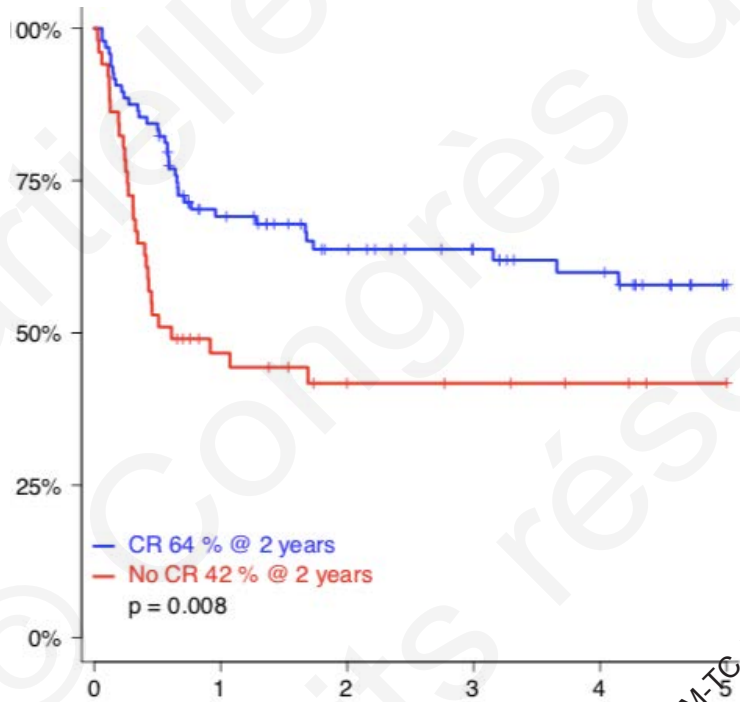


# DISEASE STATUS IS THE MAIN CHARACTERISTIC IMPACTING SURVIVAL

## ► PFS



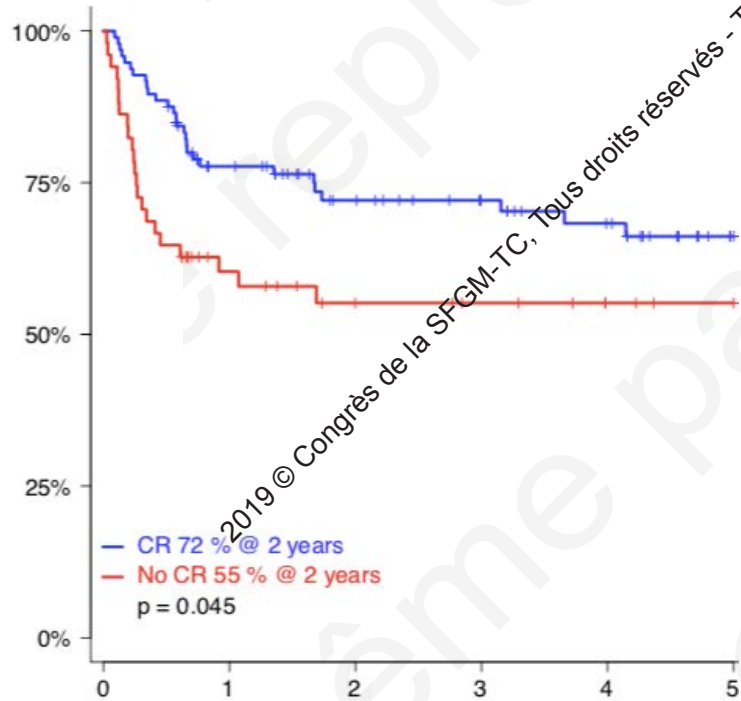
## ► GRFS



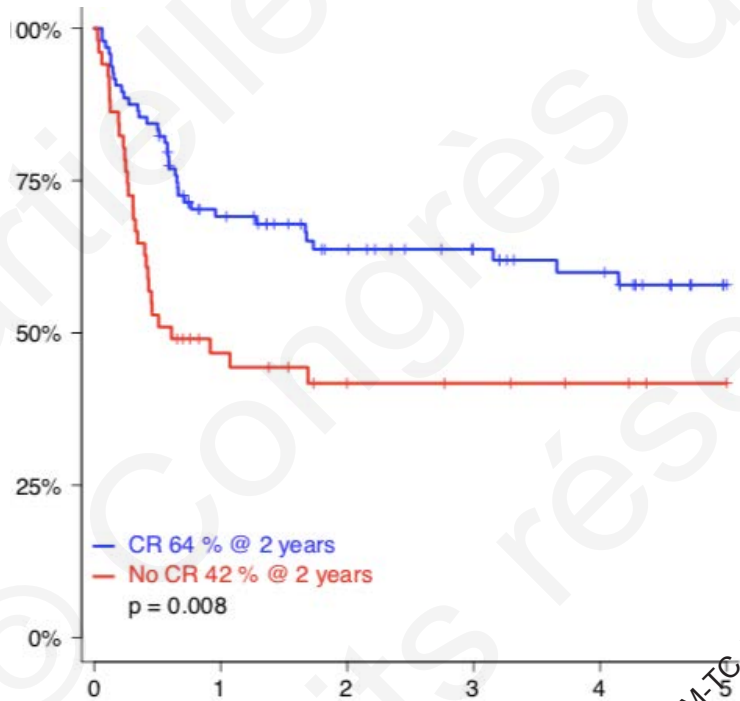
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# DISEASE STATUS IS THE MAIN CHARACTERISTIC IMPACTING SURVIVAL

## ► PFS



## ► GRFS

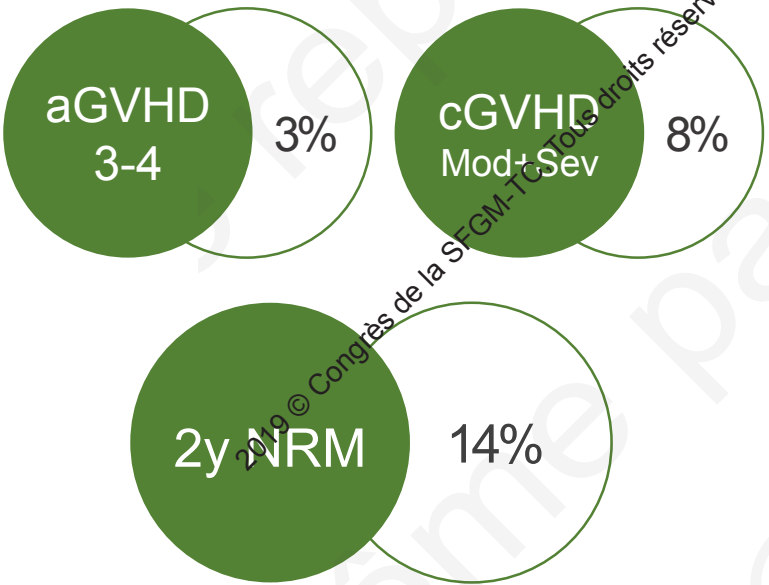


## ► Cox Model

	HR	95CI	p
CIR	2,99	(1,40-6,35)	0,004
PFS	1,70	(0,96-3,01)	0,068
OS	1,70	(0,90-3,20)	0,102
GRFS	1,90	(1,19-3,23)	0,008

# NMAC + Haplo-SCT with PT-Cy for Advanced Lymphoma is a valuable curative option

LOW TOXICITY



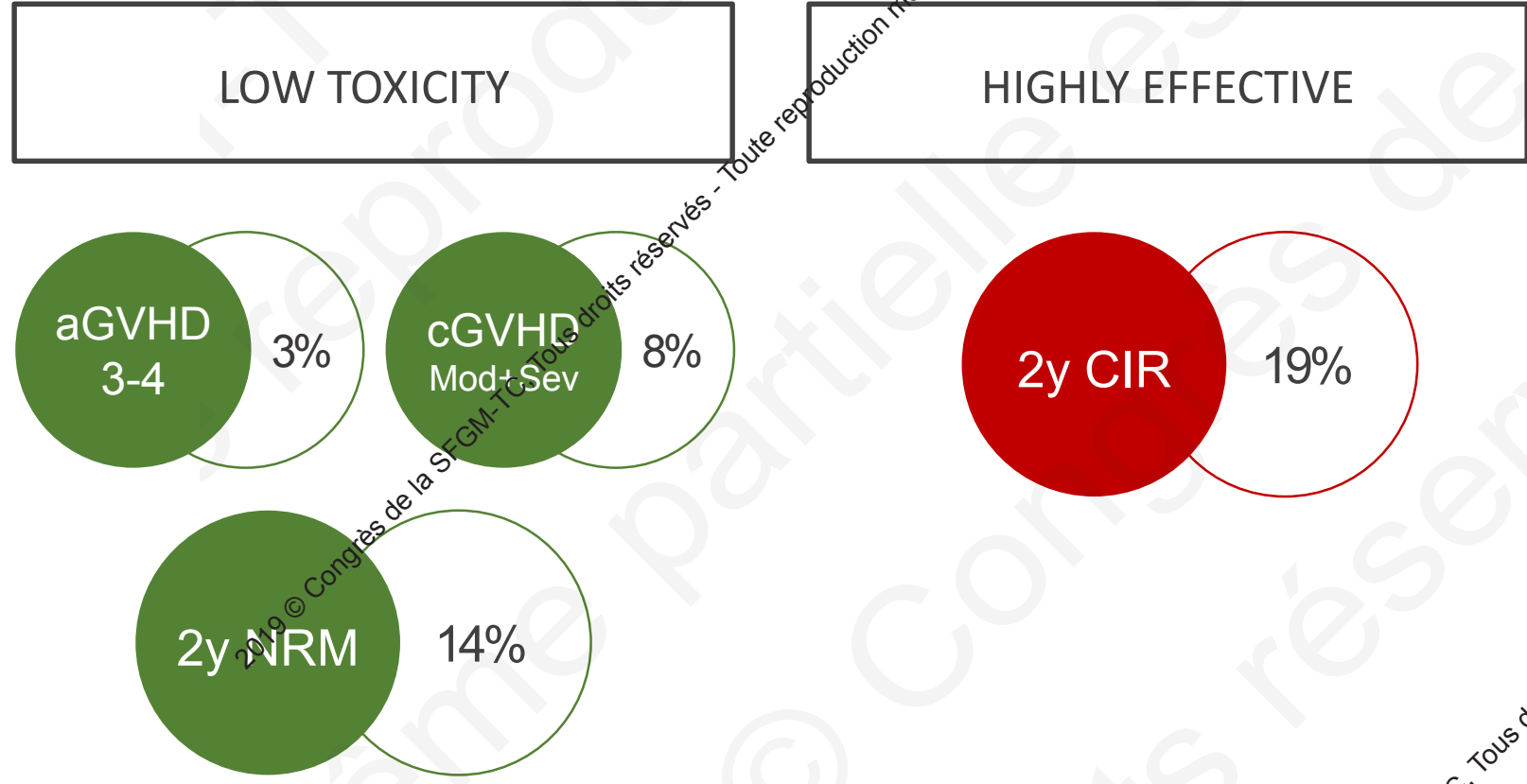
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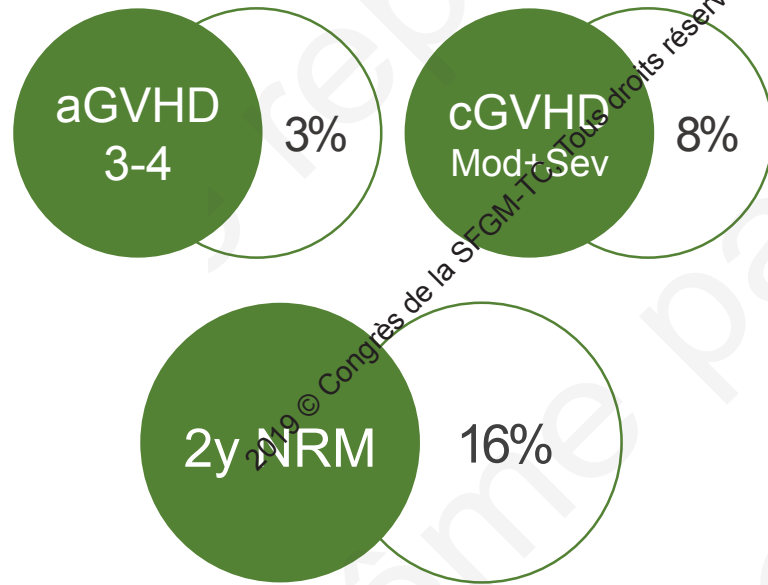
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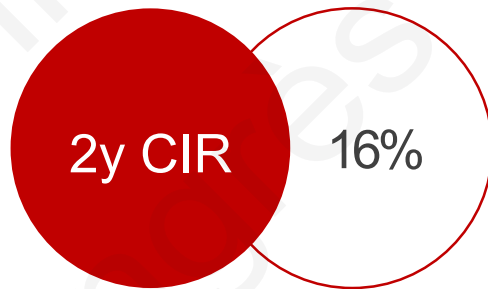
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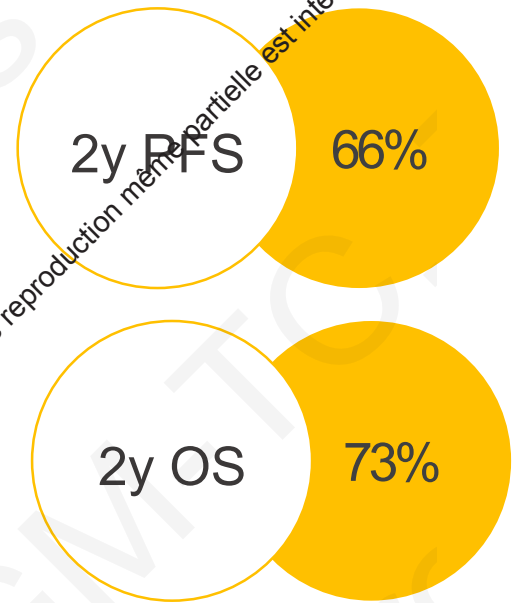
LOW TOXICITY



HIGHLY EFFECTIVE

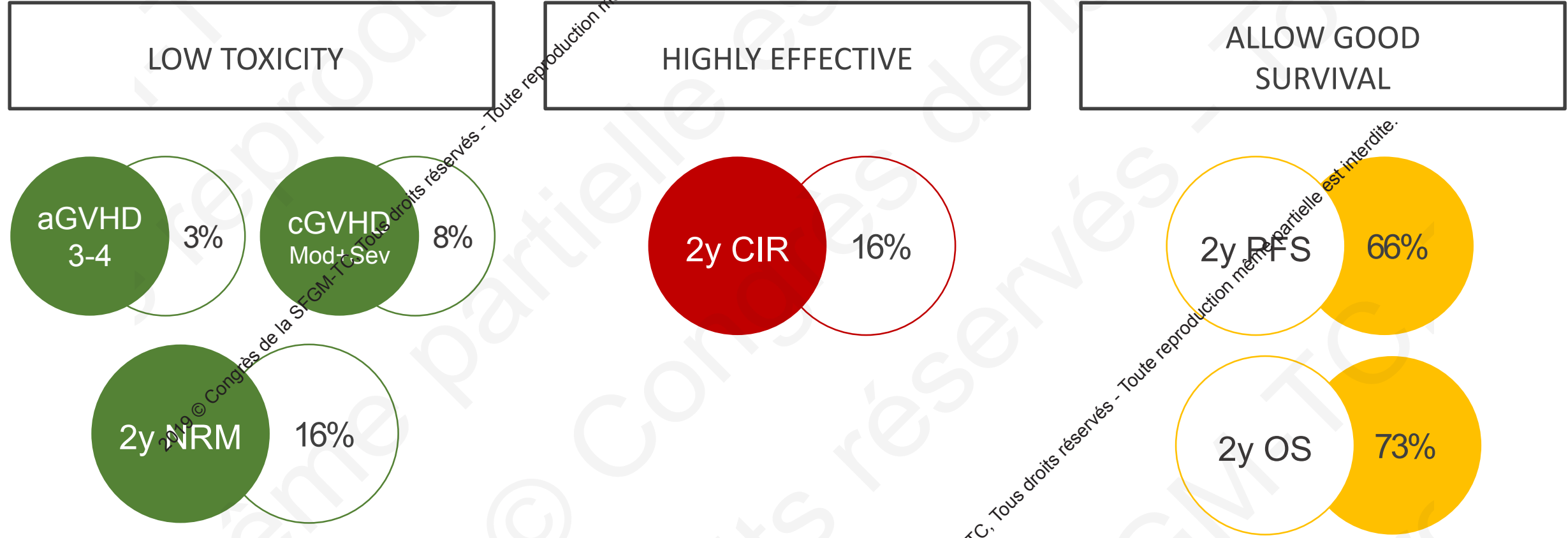


ALLOW GOOD SURVIVAL



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# NMAC + Haplo-SCT with PT-Cy for Advanced Lymphoma is a valuable curative option



No difference HL vs NHL

Impact of disease status

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# OUR STUDY VS OTHER HAPLO-SCT EXPERIENCES

	Disease	N Haplo	aGVHD 2-4	cGVHD	PFS	OS	NRM	CIR
<b>Our Study</b>	HL:73 NHL:74	147	30%	13%	66%2y	73%2y	14%2y	19%2y
<b>Ghosh et al (CIBMTR)</b>	HL:222 NHL:765	180	27%	12%	48% 3y	61% 3y	15% 3y	37% 3y
<b>Martinez et al (EBMT)</b>	HL	98	33%	26%	43% 2y	67% 2y	17% 1y	39% 2y
<b>Bourroughs et al</b>	HL	28	43%	35%	51% 2y	58% 2y	9% 2y	40% 2y
<b>Dreguer et al</b>	DLBCL	132	34%	15%	38% 3y	46% 3y	22% 3y	41% 3y
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## STRENGTH AND LIMITATIONS

- ▶ **147 homogeneously** lymphoma patients, using a single platform of NMAC and GVHD prophylaxis based on PT-Cy one of the largest cohorts reported
- ▶ Median follow up of **39 months**
- ▶ Sufficient to assess the early events (NRM)

- ▶ Not able to show significant predictive factor of outcome (except the disease status), because of a lack of power.
- ▶ Any possible comparison with a reference group of patients who did not receive transplantation.

# ACKNOWLEDGEMENT

## Transplantation Program

### IPC Marseille

D Blaise

R Devillier

S Furst

S Harbi

V Maisano

T Pagliardini

A Granata

F Legrand

P J Weiller

## ICH Milan

L Castagna

S Bramanti

B Sarina

C De Philippis

J Mariotti

## Lymphoma Program

R Bouabdallah

JM Schianno

N Belmecheri

D Coso

T Aurran

## Cellular Therapy Unit

C Chabannon

B Calmels

C Lemarié

## Nursing Staff

L Capmaris

