



SINTOMA'25

8 A 10 DE MAIO

HOTEL INTERCONTINENTAL | SÃO PAULO

PARCERIA



society of hematologic oncology

APOIO
INSTITUCIONAL



Educação
e Pesquisa

What do I consider when deciding on second-line therapy in mantle cell lymphoma?

O que considero quando decido sobre a terapia de segunda linha no linfoma do manto?

DANIELLE LEÃO

Hematologista e Pesquisadora Clínica

BP – A Beneficência Portuguesa de SP

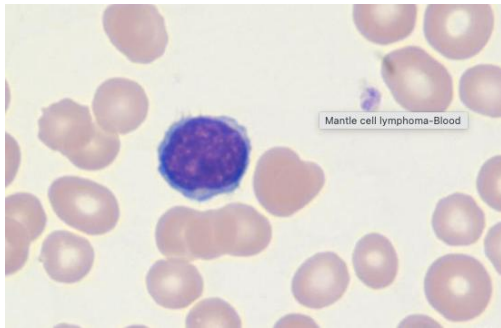
CROMA Oncologia

DISCLOSURES - DECLARAÇÃO DE CONFLITOS DE INTERESSE

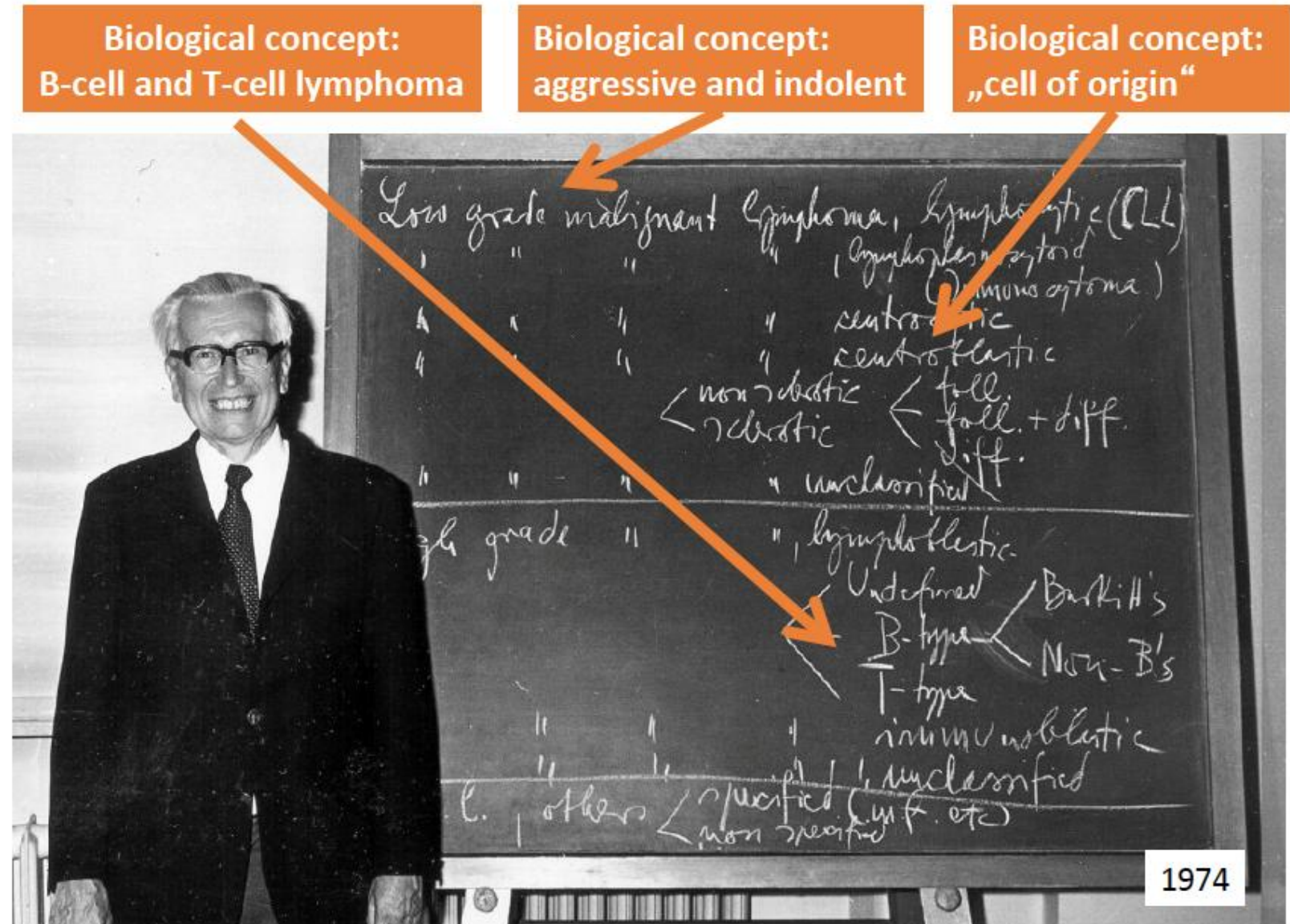
<u>Patrocínio para esse evento</u>	Sem fee / Patrocínio da AstraZeneca para SINTOMA 2025
<u>Instituição</u>	BP - Beneficencia Portuguesa de Sao Paulo e CROMA Oncologia
<u>Participação em estudos clínicos</u> <u>(Indústria farmacêutica)</u>	Roche, Novartis, GSK, Janssen, Millenium Takeda, ABBVIE, Daichii Sankyo, Pfizer, Celltrion, BMS, AstraZeneca, Viracta, Sandoz, AGIOS, Astellas, MEDAC, Onconova, MSD, Sanofi, Regeneron, Lilly, ADC Therapeutics, Libbs, Beigene
<u>Participação em estudos clínicos</u> <u>(ITT, RWE ou registros)</u>	T-Cell Project, HOLA registry, MMyBrave registry, REALITY WW, , Brazilian Group of CLL, Brazilian Group of Multiple myeloma, AML-Brazil, Coalizão COVID Brazil,
<u>Palestrante</u>	Janssen, AstraZeneca, Zodiac, Roche, Novartis, Takeda, AMGEN, Roche, Libbs, BMS, Celgene, Pfizer, ABBVIE, Sanofi, Pintfarma, Knight Therapeutics/United Medical
<u>Membro de Advisory Board</u>	Kite/Gilead, Knight Therapeutics/United Medical, Janssen, Novartis, AMGEM, Takeda, Roche, BMS, ABBVIE, Libbs, Celgene, Eurofarma,
<u>Membro de Steering Committee</u>	Janssen
<u>Membro de Independent Data Monitoring Committee</u>	Libbs /Mabxscience
<u>Afiliação</u>	ASH, EHA, ESO, IMS, CDCN (Castleman disease), ABHH (Associação Brasileira de Hematologia), Coordinator of Clinical Research Committee at ABHH, Myeloma Committee (ABHH), CLL Committee (ABHH), Lymphoma Committee (ABHH)

Dr. Karl Lennert

Department of
Pathology of the
Christian-Albrechts
University in Kiel



Blood Images, 2018



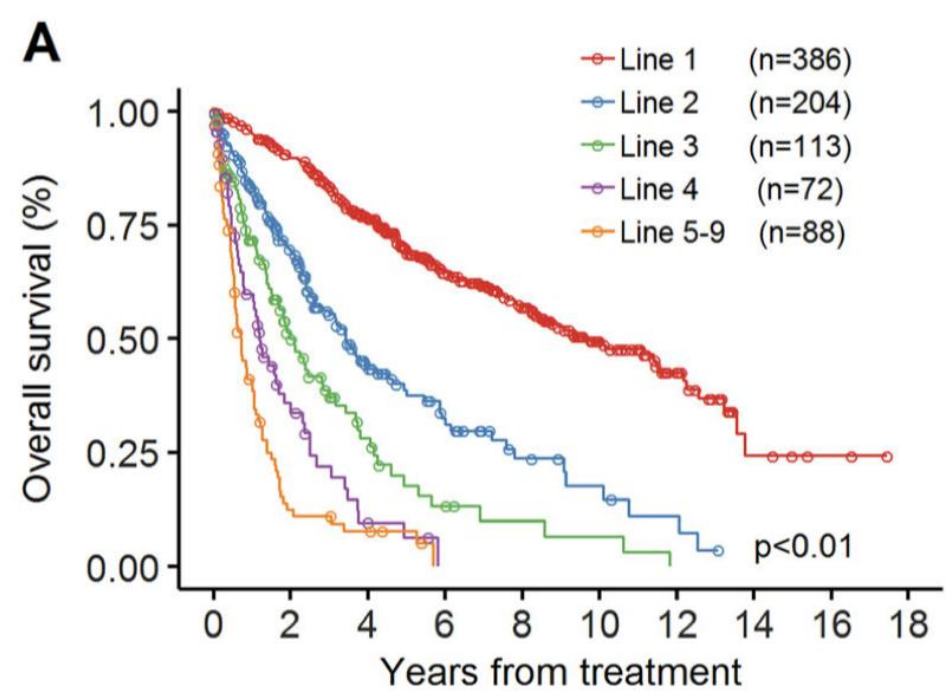
<https://www.society-for-hematopathology.org/web/about-memorial-lennert.php>

<http://imagebank.hematology.org/image/61761/mantle-cell-lymphomablood>. Acesso de ambas em 20/08/22

MANTLE CELL LYMPHOMA

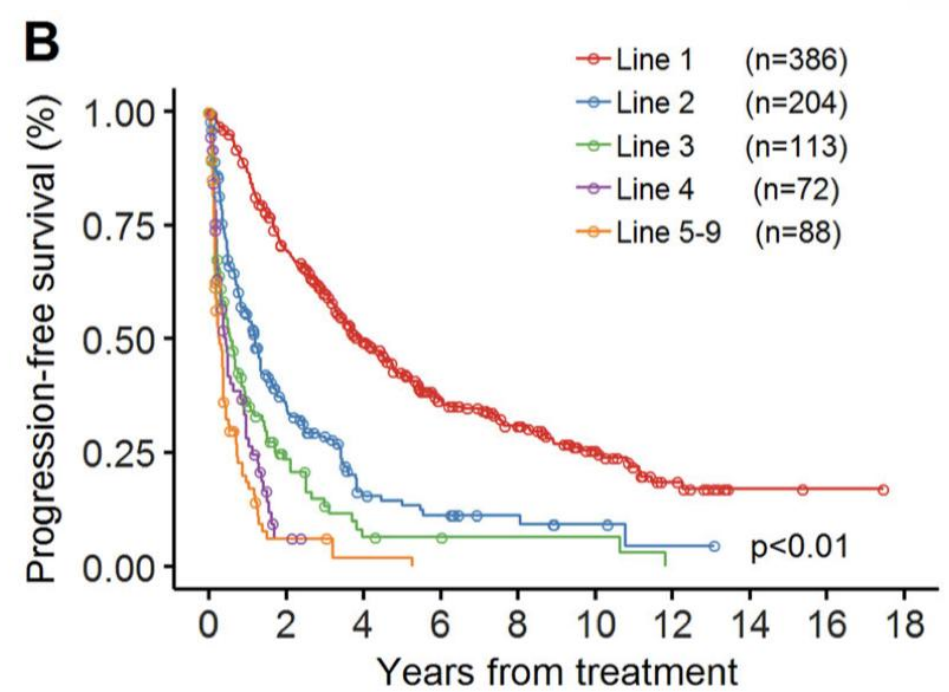
“Virtually all patients will eventually experience refractory or relapsed disease, with a virulent course of resistance and serial relapses, making treatment challenging”

MCL SURVIVAL – LINES OF THERAPY



Number at risk

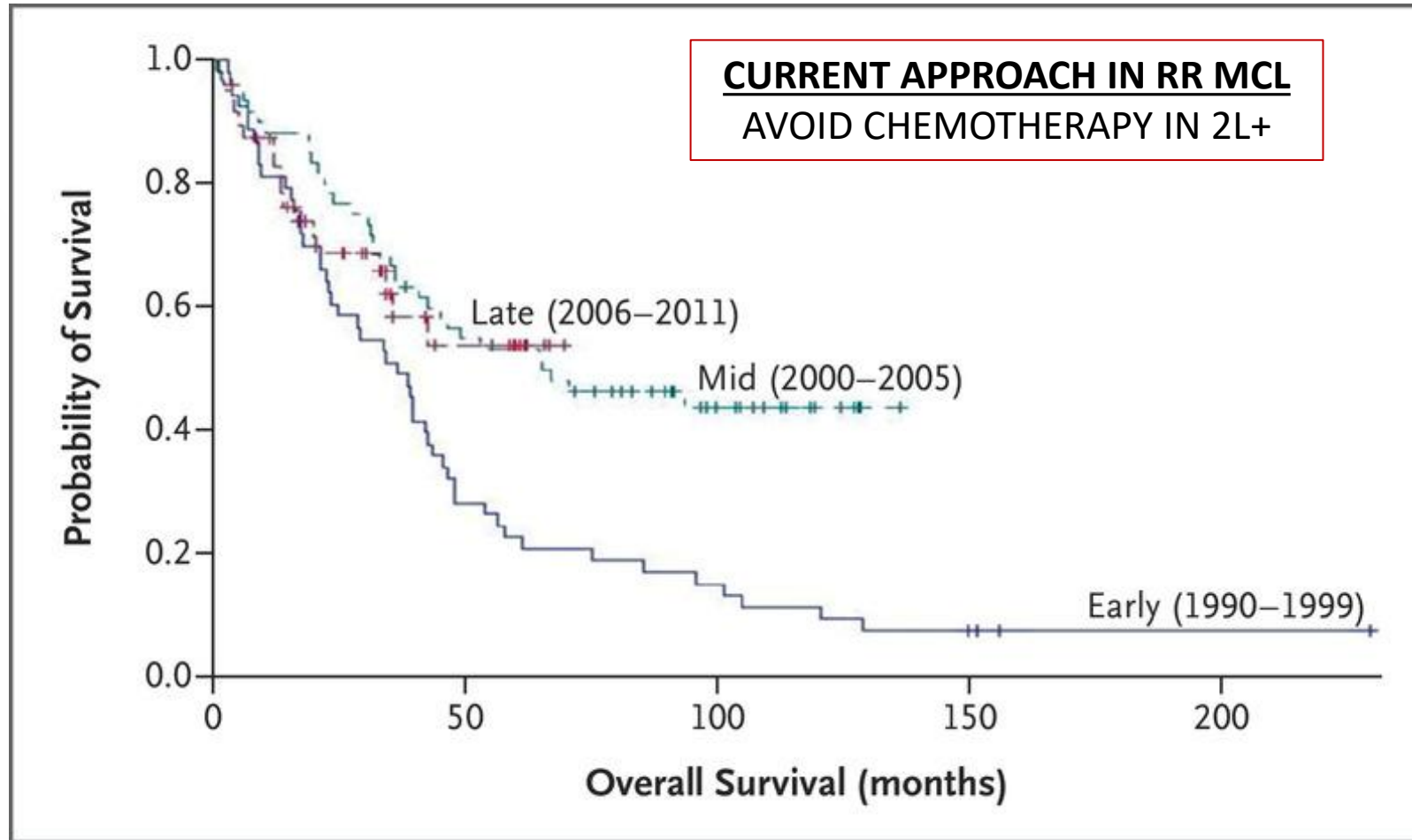
386	329	242	142	101	53	28	5	2	0
204	111	45	23	11	6	3	0	0	0
113	38	15	6	3	2	0	0	0	0
72	16	4	0	0	0	0	0	0	0
88	9	5	0	0	0	0	0	0	0



Number at risk

386	254	155	86	60	31	13	2	1	0
204	55	16	11	6	3	1	0	0	0
113	17	4	3	2	2	0	0	0	0
72	2	0	0	0	0	0	0	0	0
88	4	1	0	0	0	0	0	0	0

IMPROVEMENT IN MCL SURVIVAL WITH NEW DRUGS



NEW DRUGS - ON LABEL IN BRAZIL - 2L+

2+ lines

MONOTHERAPY

-COVALENT BTKi

- 1st generation – ibrutinib
- 2nd generation – acalabrutinib, zanubrutinib

NEW DRUGS ASSOCIATION

- BTKi + BCL2i

Ibrutinib + venetoclax (SYMPATICO)

3+ lines

MONOTHERAPY

- BTKi

Pirtobrutinib (label – after 2+ lines of therapy and a covalente BTKi)

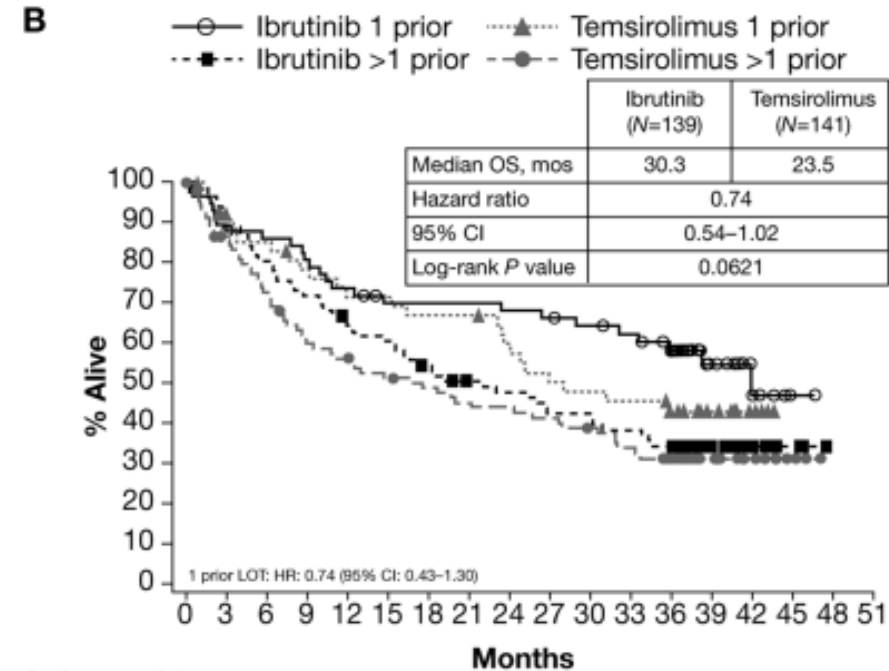
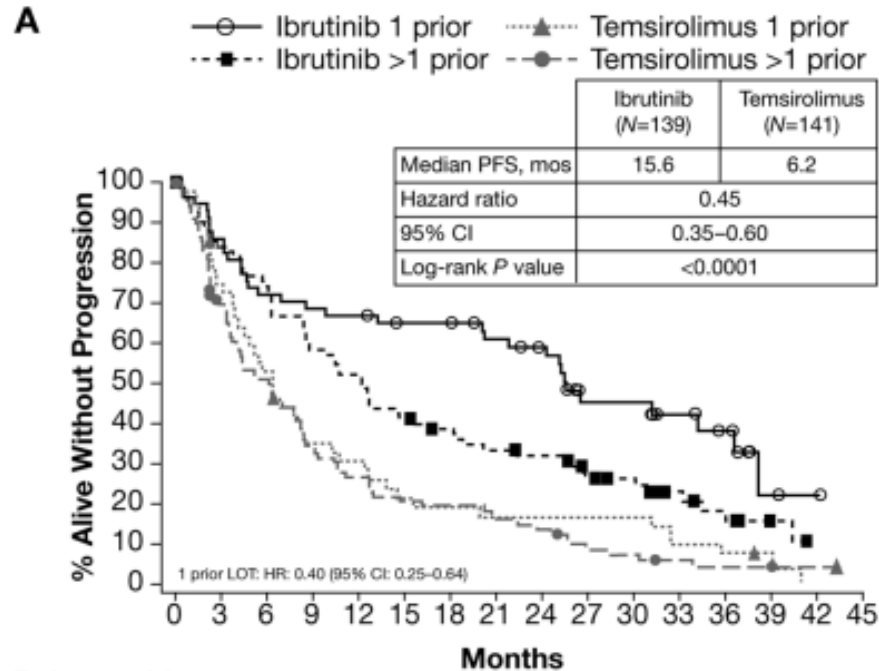
OBS- Not in the scope of the lecture, but, in fit patients

ALWAYS consider/ discuss alloSCT

*(debatable - Auto SCT if the only option
and not previously done)*

IT IS NOT CLL!! (unfortunately.....😞)

Ibrutinib – estudo RAY



RESUMO CARACT. PACIENTES

- Med 68 anos (≥65 anos 62%)
- Med 2 linhas prévias (1-9)
- Dç refratária 26% Ibrut vs 33% Tensir
- Blastoide 12%

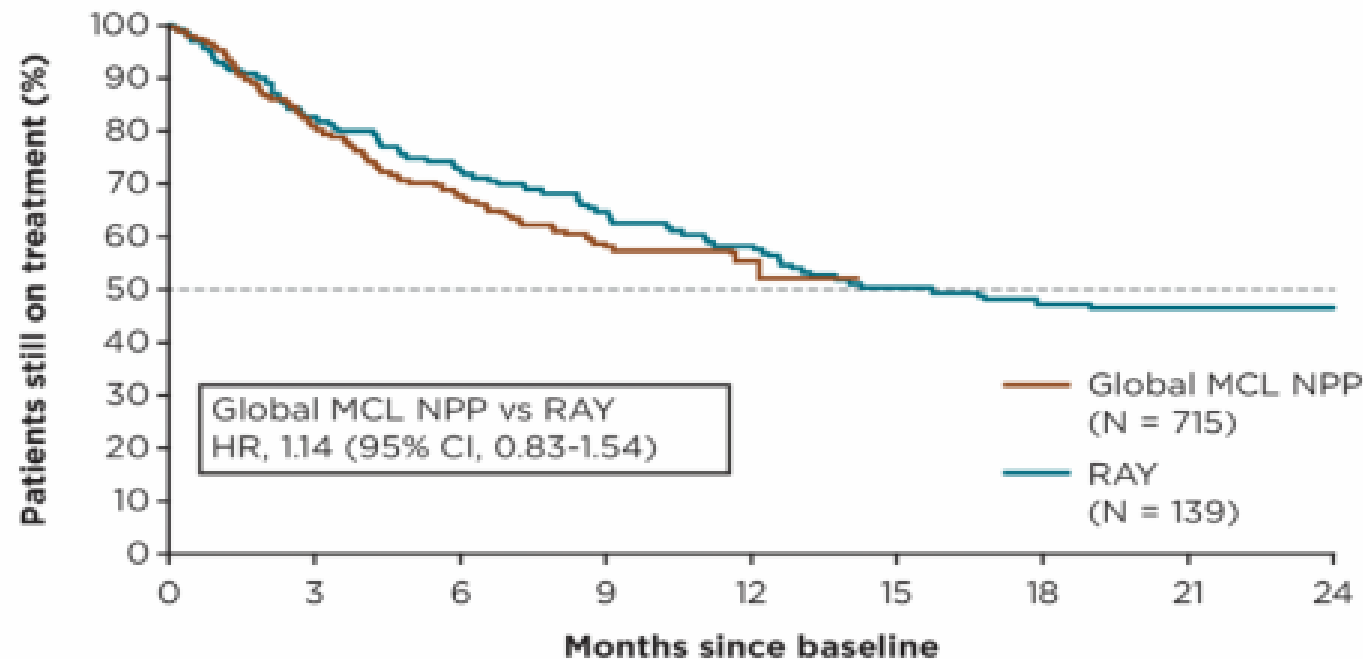
Real-World Experience of Ibrutinib In > 700 Patients With Mantle-Cell Lymphoma: Data From a Global Named Patient Program

Simon Rule,¹ Joris Diels,² Nollaig Healy,³ Wafae Iraqi,⁴ Johan Aschan,⁵ and Mark Wildgust⁶

¹Dartford Hospital, Plymouth, UK; ²Janssen EU NEMAR Statistics & Modeling, Beerse, Belgium; ³Janssen-Cilag EMA Medical Affairs, Dublin, Ireland; ⁴Janssen Pharmaceuticals, Paris, France; ⁵Janssen-Cilag EMA Medical Affairs, Sollefuna, Sweden; ⁶Janssen Research & Development, Raritan, NJ, USA

- 52,3% em tratamento p/ 12 meses
- RAY – 57,6%

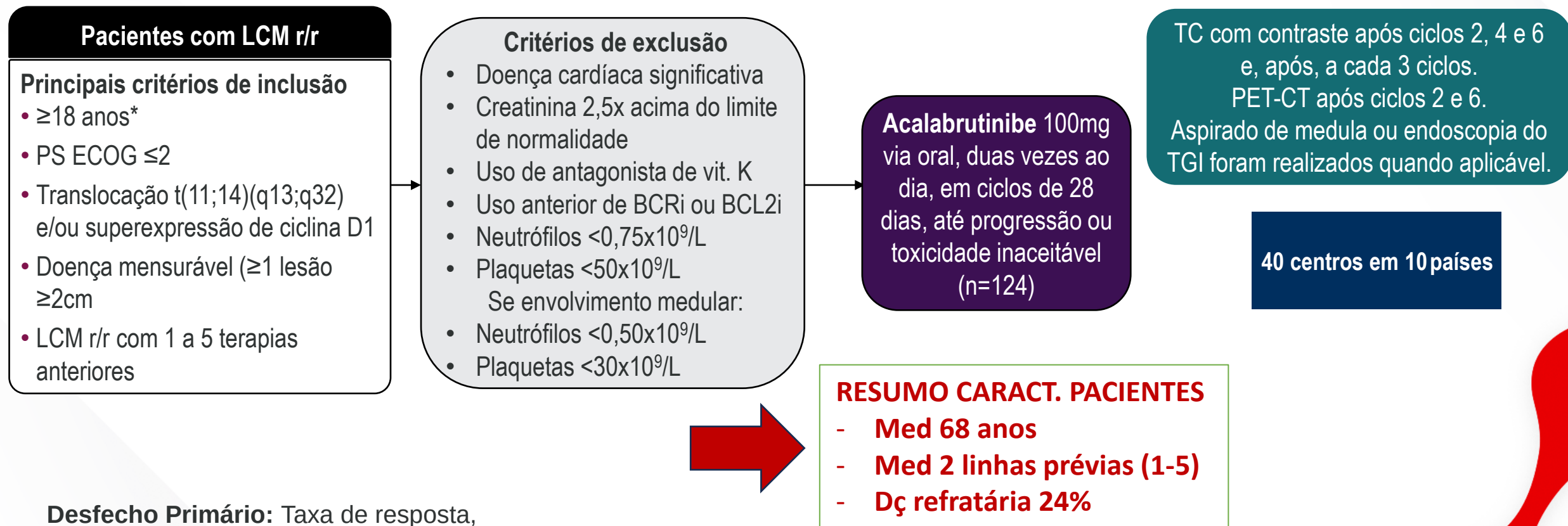
Figure 1. Time on Treatment for Global MCL NPP Versus RAY



HR, hazard ratio.

Acalabrutinib – ACE-LY-004

Estudo aberto, de fase 2, braço único, multicêntrico



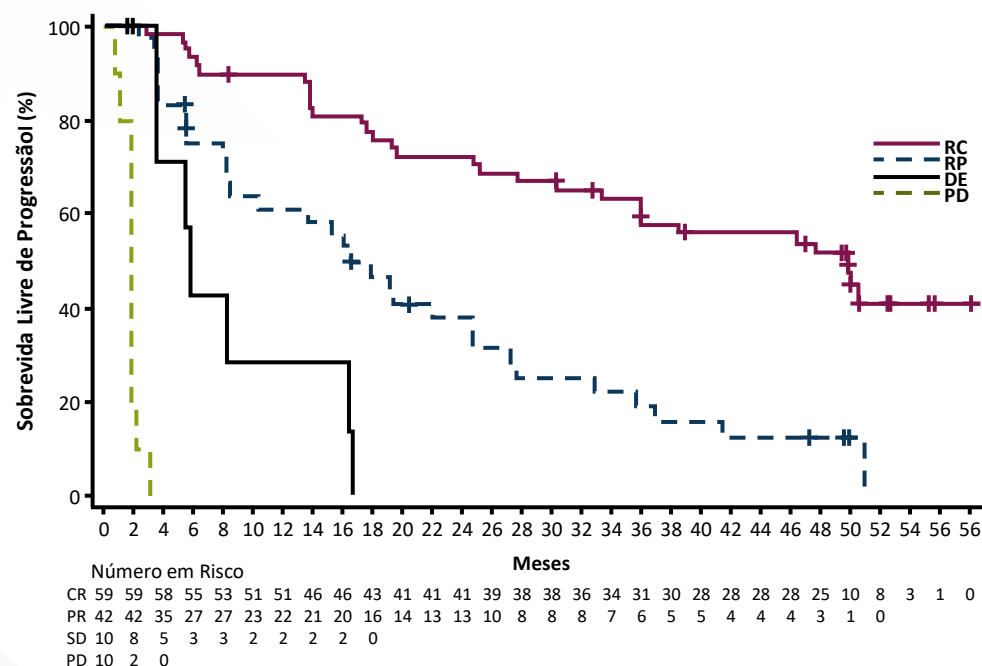
Desfecho Primário: Taxa de resposta,

Desfechos Secundários: Duração de resposta, SLP, SG, segurança, farmacocinética e farmacodinâmica. Taxa de resposta, duração de resposta e SLP por Revisão de Comitê Independente por critério de Lugano 2014.

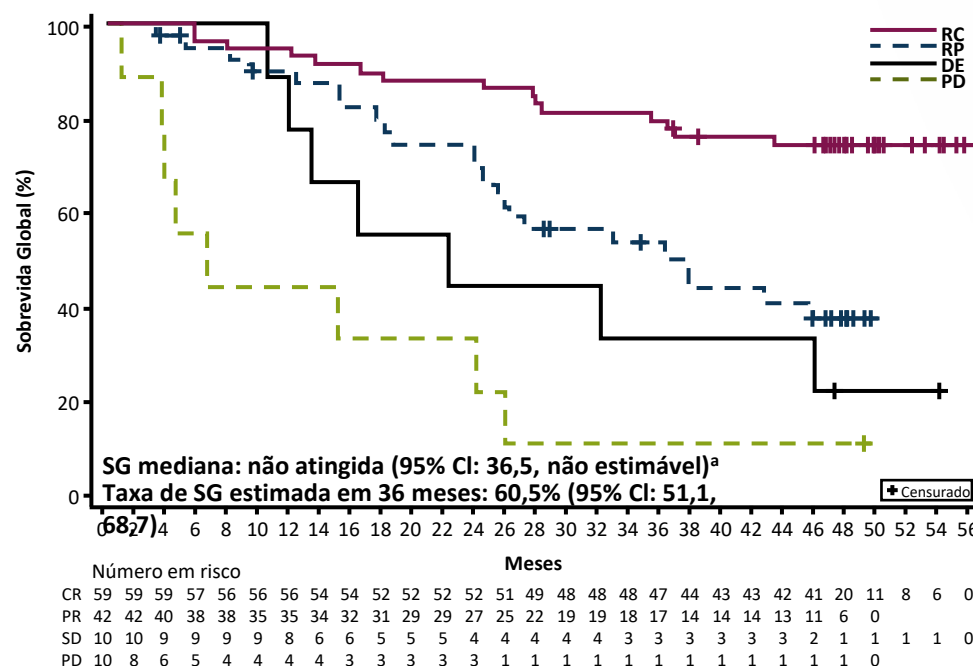
ACE-LY-004

Mais de um terço dos pacientes estava sem progressão de doença em 36 meses

Sobrevida Livre de Progressão



Sobrevida Global



Med SLP : 22,0 meses (95% CI: 16,6, 33,3)^a

Med SG : Não atingida -FUP 26M

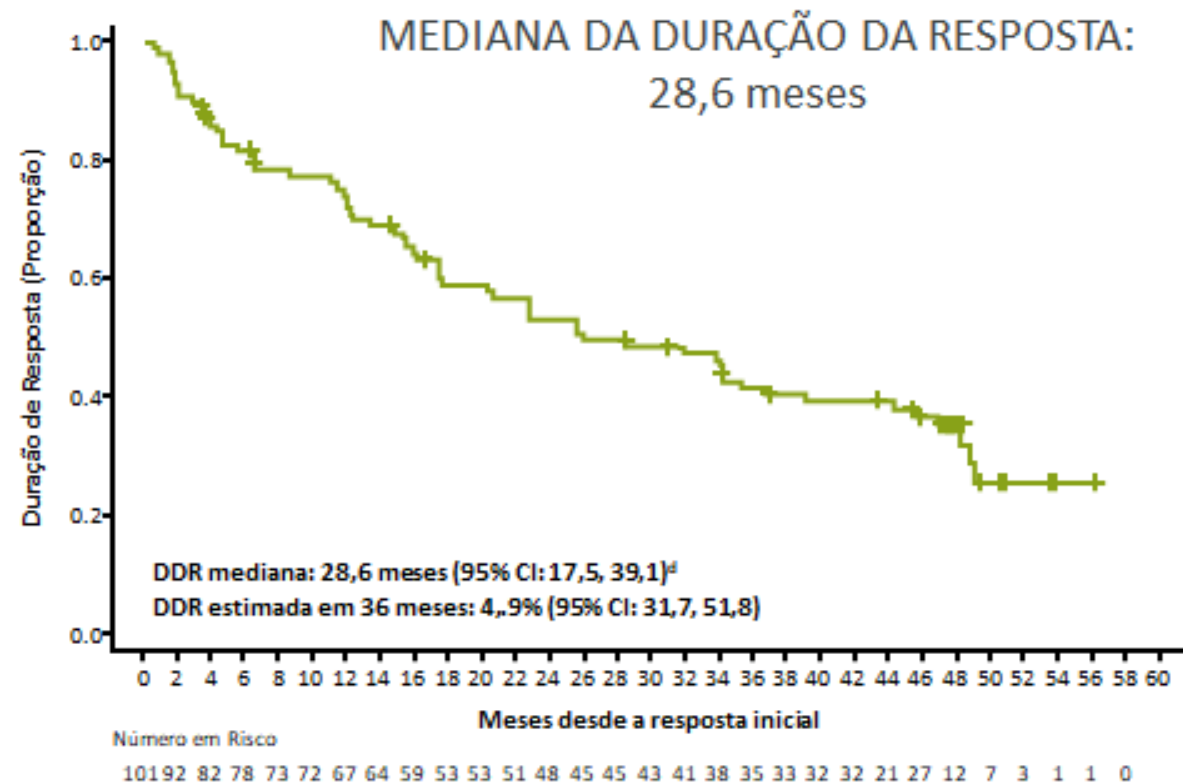
Taxa de SLP estimada em 36 meses: 37,2% (95% CI: 28,2, 46,1)

. Wang M, et al. Leukemia. 2019;33(11):2762-6.

2. Wang M, et al. Poster presented at: ASH; Dec 5-8, 2020; Poster #2040.

Atualização 38 Meses ACE-LY-004: Manutenção da Resposta

Todos os pacientes (N=124)				
Desfechos	Seguimento de 26 meses ¹		Seguimento de 38 meses ²	
	n (%)	95% CI	n (%)	95% CI
TRO ^b (RC + RP)	100 (81)	73, 87	101 (81)	74, 88
Melhor Resposta				
RC	53 (43)	34, 52	59 (48)	39, 57
RP	47 (38)	29, 47	42 (34)	26, 43
DE	11 (9)	5, 15	10 (8)	4, 14
PD	10 (8)	4, 14	10 (8)	4, 14
Não avaliável ^c	3 (2)	1, 7	3 (2)	1, 7



MEDIANA DA DURAÇÃO DA RESPOSTA: 28,6 meses

Ki67 < 50%- 36,7 meses

Ki67 ≥ 50%- 15,3 meses



^aDe acordo com a classificação de Lugano. ^bDefinido como a proporção de pacientes que alcançaram RP ou melhor de acordo com a classificação de Lugano. ^cInclui pacientes sem qualquer avaliação adequada da doença pós-baseline. ^dDDR mediana no seguimento de 26 meses.

26 meses (IC de 95%: 17,5, não atingido).¹

DDR: duração de resposta; DE: doença estável; IC: intervalo de confiança; (m): meses; PD: progressão de doença; RC: resposta completa; RP: resposta parcial; TRO: taxa de resposta objetiva.

1. Wang M, et al. Leukemia. 2019;33(11):2762-6. 2. Wang M, et al. Poster presented at: ASH; Dec 5-8, 2020; Virtual Meeting. Poster #2040.



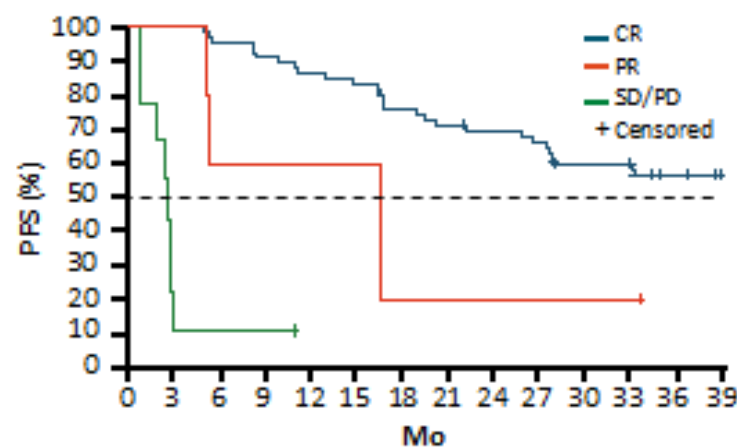
BGB-3111

Efficacy

BGB-3111 Phase II Study Zanubrutinib monotherapy **RR MCL**

Efficacy Variable (INV Assessed)	N = 86
ORR (CR+PR), % (95% CI)	83.7 (74.2-90.8)
Best response, n (%)	
CR	67 (77.9)
PR	5 (5.8)
SD	1 (1.2)
PD	8 (9.3)
Discontinued before first assessment	5 (5.8)
Median follow-up, mo	30.6
Median DOR, mo (95% CI)	NR (24.9-NE)
Median PFS, mo (95% CI)	33.0 (19.4-NE)
36-mo PFS, % (95% CI)	47.6 (36.2-58.1)
36-mo OS, % (95% CI)	74.8 (63.7-83.0)

PFS

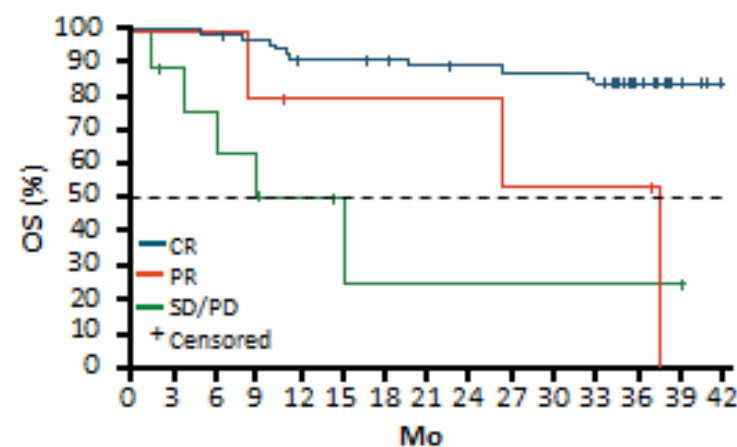


No. of patients at risk

CR	67	67	63	60	57	55	50	47	44	42	37	35	9	0
PR	5	5	3	3	3	3	1	1	1	1	1	1	0	0
SD/PD	9	1	1	1	0	0	0	0	0	0	0	0	0	0

Median time to response: 2.7m
45.3% pts continued on treatment
Median treatment duration: 27.6m

OS



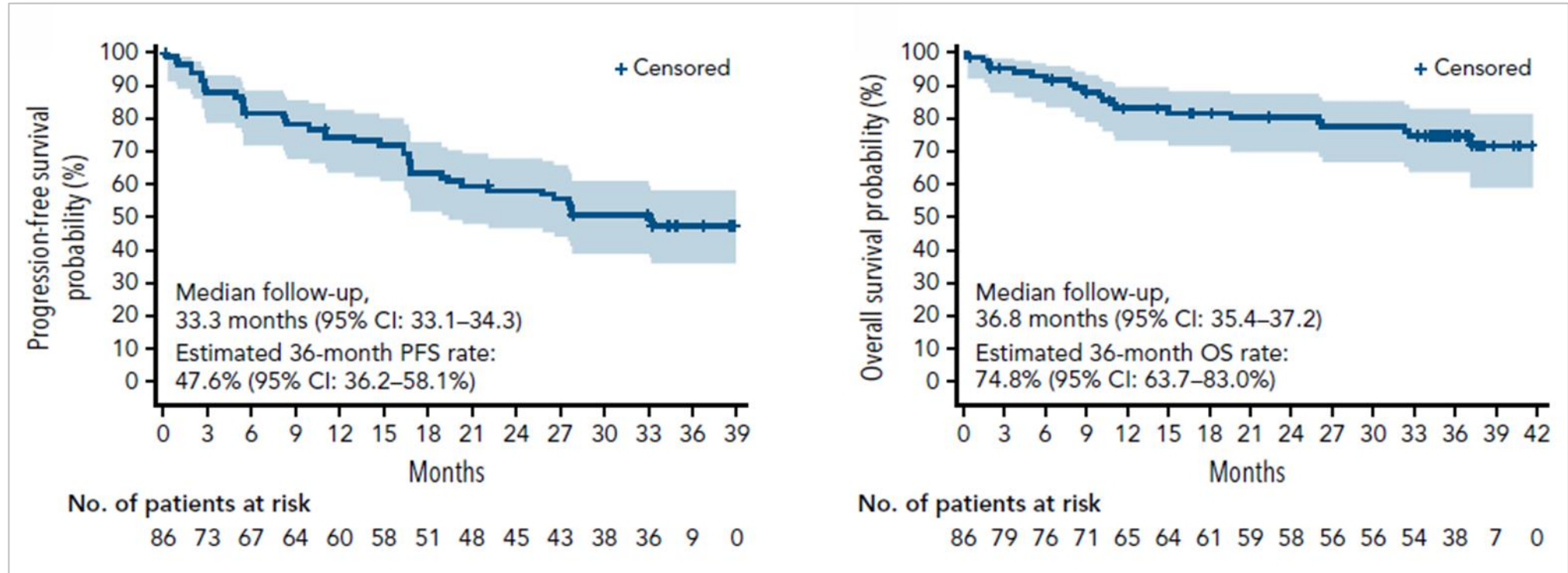
No. of patients at risk

CR	67	67	66	64	59	59	57	55	54	53	53	51	35	7	0
PR	5	5	5	4	3	3	3	3	3	2	2	2	2	0	0
SD/PD	9	7	5	3	3	2	1	1	1	1	1	1	0	0	0

Zanubrutinib in Relapsed/Refractory Mantle Cell Lymphoma Treatment

BGB-3111-206²

Efficacy



Kaplan-Meier curves of survival and response analyses. PFS as determined by investigator assessment. Shaded area indicates 95% CI. / OS. Shaded area indicates 95% CI.

AND AFTER cBTKi?

PIRTOBRUTINIB EFFICACY IN MCL AFTER cBTKi

Does “Kinase Dead” mean that signal transduction is abrogated?

L528 and C481F/R/Y “kinase dead” → prevent the autophosphorylation of BTK (required for BTK kinase activation)

Class	Drug	Binding site	Half-life	Specificity	Toxicity	BTK mutations
First generation	Ibrutinib	Irreversible at C481	Short	Low	Bleeding, cardiac	C481S
Second generation	Acalabrutinib	Irreversible at C481	Short	High	Reduced	C481x, T474x
Next generation	Zanubrutinib	Irreversible at C481	Short	High	Reduced	C481x, L528W
Reversible	Pirtobrutinib	Reversible	Long	Very high	Reduced	T474, L528W, V416L, A428D, M477I, M437R, kinase-dead C481
Reversible	Nemtabrutinib	Reversible	Long	Low	Insufficient information	Not reported

Brown JR, et al. Oral presentation at EHA 2023. Abstract #S146.

BUT **DOES NOT** prevent downstream signal transduction proteins from being activated through phosphorylation.

PIRTOBRUTINIB EFFICACY IN MCL

AFTER COVALENT BTKi

	Ibrutinib (n=59)	Acalabrutinib (n=31)	Zanubrutinib (n=6)
Overall response rate, % (95 CI)	59.3% (45.7-71.9)	58.1% (39.1-75.5)	50.0% (11.8, 88.2)
Best overall response, n (%)			
Complete response	13 (22.0)	5 (16.1)	1 (16.7)
Partial response	22 (37.3)	13 (41.9)	2 (33.3)
Stable disease	7 (11.9)	4 (12.9)	2 (33.3)
Progressive disease	11 (18.6)	4 (12.9)	1 (16.7)
Not evaluable ^a	6 (10.2)	5 (16.1)	0
Duration of response			
Patients with a response, n	35	18	3
Patients with censored data, n (%)	24 (68.6)	8 (44.4)	3 (100.0)
Median duration of response, mo (95% CI)	NR (7.46-NR)	6.93 (3.22-NR)	NR (NR-NR)
Median follow-up, mo	11.93	8.21	5.78

WANG'S DISCUSSION:

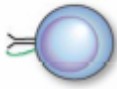
Notably, similar efficacy was observed in patients previously treated with ibrutinib, acalabrutinib, or zanubrutinib,

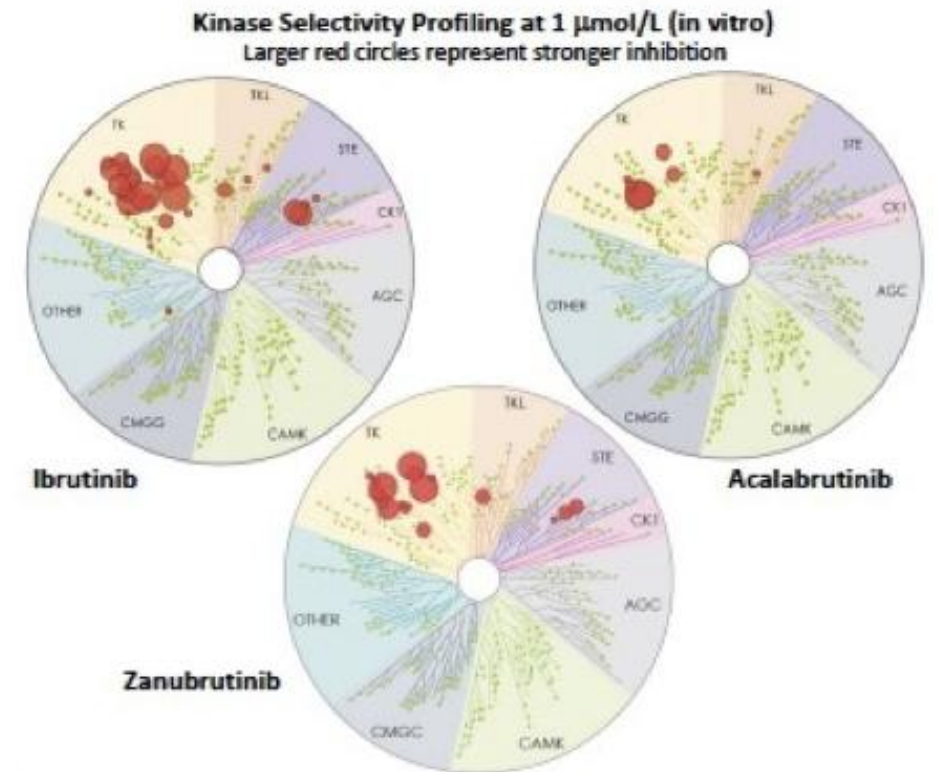
Wang ML, et al. J Clin Oncol. 2023

HOW TO CHOOSE THE cBTKI MONOTHERAPY FOR 2nd LINE?

- EFFICACY SIMILAR
- ESPECIFICITY FOR BTK
- SAFETY
- SPECIFIC PATTERN OF TOXICITY FOR EACH DRUG

BTKi Safety peculiarities

Adverse events	Cell type	Kinase	Ibrutinib	Acalabrutinib	Zanubrutinib
Infection	 B-lymphocyte	BTK			
		TEC		n.i.	
	 T-lymphocyte	ITK		n.i.	n.i.
		TEC		n.i.	
		RLK/TKK			
	 Macrophage Neutrophil	BTK			
		TEC		n.i.	
** Bleeding	 Thrombocyte	BTK			
		TEC*		n.i.	
			minor bleeding		
Atrial fibrillation	 Cardiomyocyte	HER2		n.i.	n.i.
		HER4			
		TEC*		n.i.	
		atrial fibrillation: frequent less frequent rare			



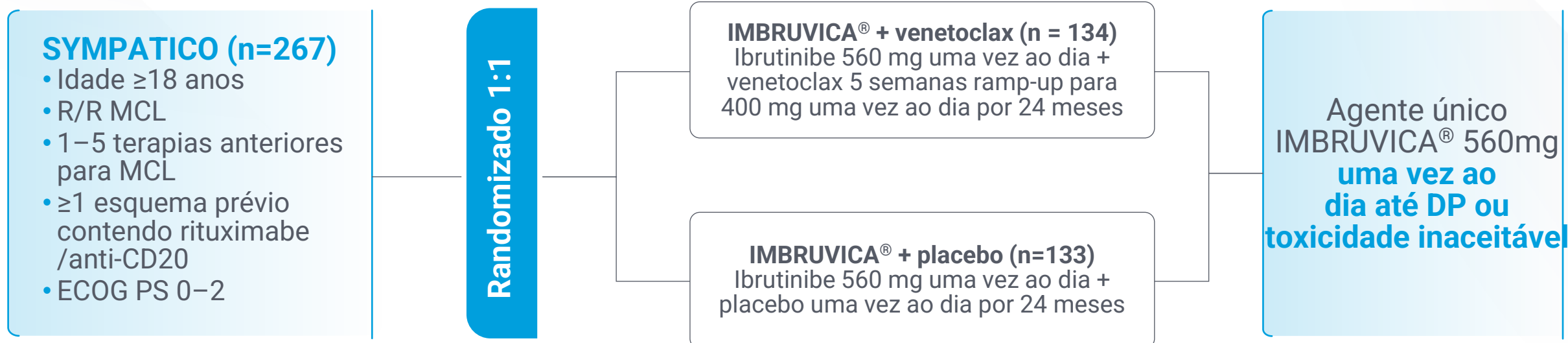
Jpers Med 2021. K Lewis. Imagem: Adapted from Estupiñán, 2021.

WHAT ABOUT COMBINATIONS?

DESENHO DO ESTUDO¹

SYMPATICO (NCT03112174)

Um estudo multinacional, randomizado, duplo-cego, controlado por placebo, de fase 3



Estratificação: ECOG PS, linhas anteriores de terapia, risco de TLS^a

Endpoints Primário

- **Sobrevida Livre de Progressão (SLP)** por avaliação do investigador usando critérios de Lugano



Endpoints secundários

- **Taxa de reposta completa (RC)** avaliada pelo investigador
- **Tempo até o próximo tratamento**
- **Sobrevida Global (SG)**
- **Taxa de resposta global (TRG)** avaliada pelo investigador

Adaptado de: Wang M, et al. Blood.2023;142(Suppl.2): LBA-2

1. Wang M, Jurczak W, Trneny M, et al. Ibrutinib combined With Venetoclax in patients with Relapsed/Refractory Mantle Cell Lymphoma: Primary Analysis Results from the Randomized Phase 3 Sympatico Study. Blood. 2023;142 (suppl2);LBA-2

■ POSOLOGIA I+V EM LCM R/R¹

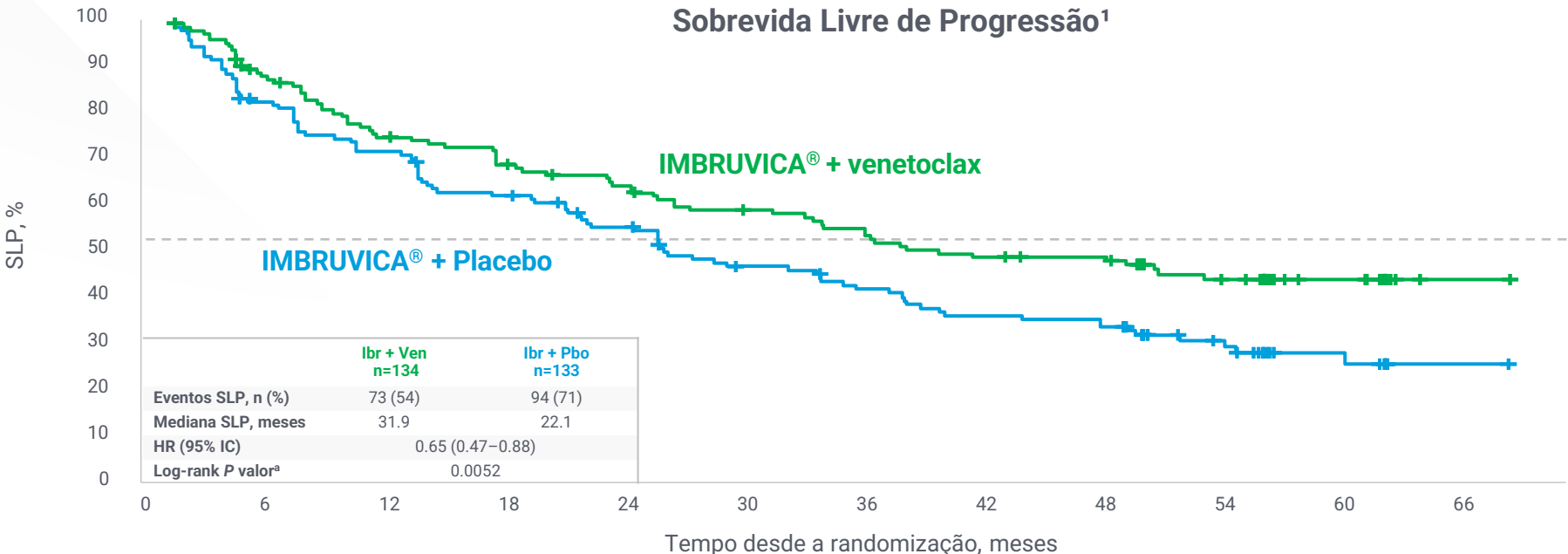


*Até progressão de doença ou toxicidade inaceitável

Adaptado de: Wang M. et al Blood. 2023;142(Suppl.2):LBA-2

Referência: 1. Kater AP, et al. Fixed-Duration Ibrutinib-Venetoclax in Patients with Chronic Lymphocytic Leukemia and Comorbidities. NEJM Evidence. 2022; doi:10.1056/EVIDoa2200006. 2; Wang M, Jurczak W, Trneny M, et al. Ibrutinib combined With Venetoclax in patients with Relapsed/Refractory Mantle Cell Lymphoma: Primary Analysis Results from the Randomized Phase 3 Sympatico Study. Blood. 2023;142 (suppl2):LBA-2

SOBREVIDA LIVRE DE PROGRESSÃO¹



Pacientes em risco

lbr+Ven	134	107	91	80	69	63	56	53	34	15	1	0
lbr+Pbo	133	96	79	70	54	46	37	36	18	8	1	0

SLP mediana, meses	Dados do Global Censoring*			
	lbr+Ven n=134	lbr+Pbo n=133	HR (95% CI)	Log-rank P value ^a
Avaliação do investigador	31.9	22.1	0.65 (0.47–0.88)	0.0052
Avaliação de IRC	31.8	20.9	0.67 (0.49–0.91)	0.0108

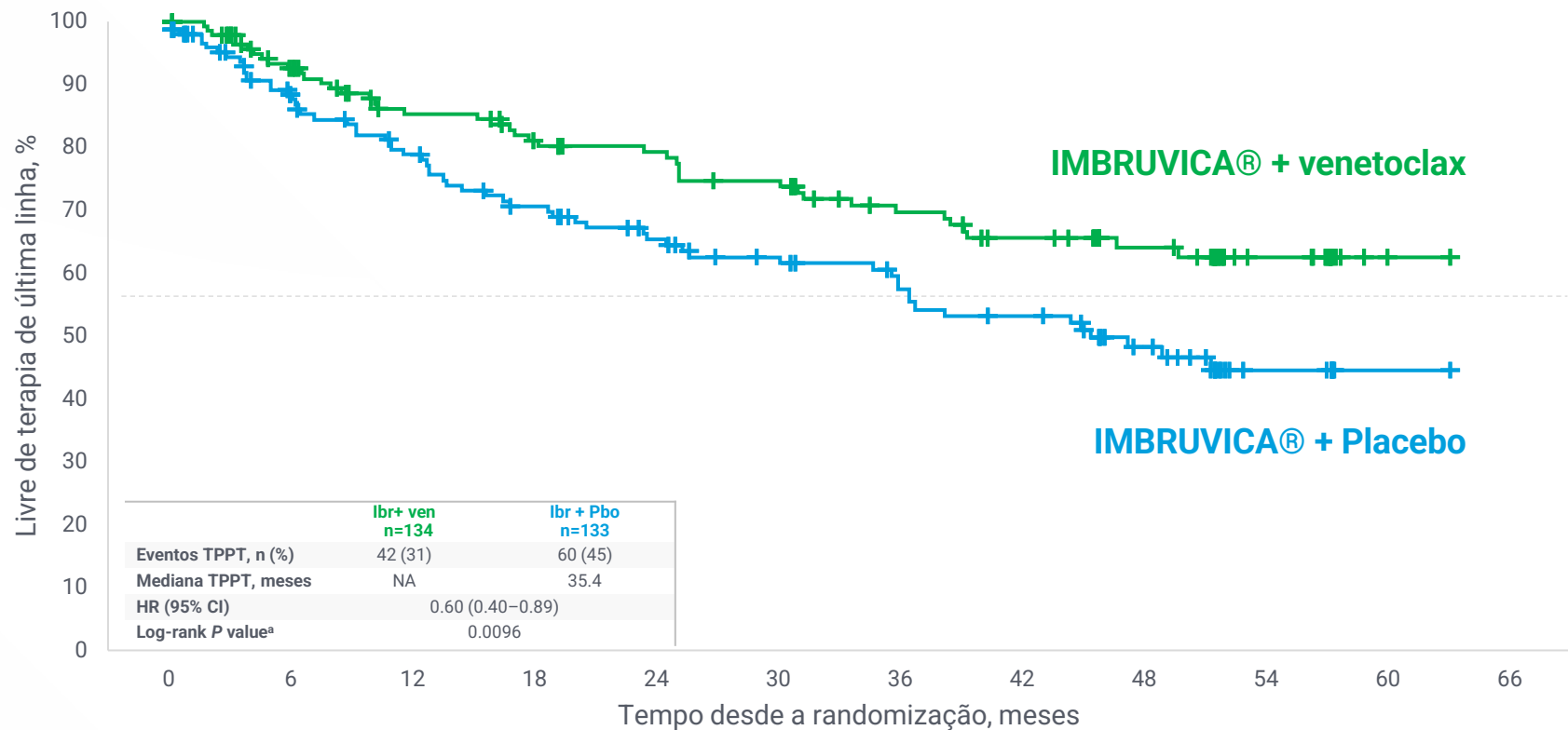


mSLP = 31,9 meses

IMBRUVICA® + venetoclax aumentou em quase **10 meses a SLP** quando comparado a monoterapia independente do perfil do paciente

Adaptado de: Wang M, et al. Blood.2023;142(Suppl.2): LBA-2.
HR, Taxa de risco lbr, ibrutinibe; Pbo, placebo; Ven, venetoclax
a.Os valores de P foram determinados pelo teste log-rank estratificado (fatores de estratificação: linhas anteriores de terapia [1–2 vs ≥3] e categoria de risco TLS [risco baixo vs aumentado])
*Método Global Censoring : at last non-PD assessment for patients without PD or death
1. Wang M, Jurczak W, Trneny M, et al. Ibrutinib combined With Venetoclax in patients with Relapsed/Refractory Mantle Cell Lymphoma: Primary Analysis Results from the Randomized Phase 3 Sympatico Study. Blood. 2023;142 (suppl2);LBA-2

TEMPO PARA O PRÓXIMO TRATAMENTO¹



Pacientes em risco

Ibr+Ven	134	107	92	82	76	65	59	52	35	16	1	0
Ibr+Pbo	133	96	83	71	58	50	42	39	20	8	1	0

Adaptado de: Wang M, et al. Blood. 2023;142(Suppl.2):LBA-2

NA, não alcançado.

a. Os valores de aP foram determinados pelo teste de log-rank estratificado (fatores de estratificação: linhas anteriores de terapia [1–2 vs ≥3] e categoria de risco TLS [risco baixo vs aumentado]).

1. Wang M, Jurczak W, Trneny M, et al. Ibrutinib combined With Venetoclax in patients with Relapsed/Refractory Mantle Cell Lymphoma: Primary Analysis Results from the Randomized Phase 3 Sympatico Study. Blood. 2023;142 (suppl2);LBA-2

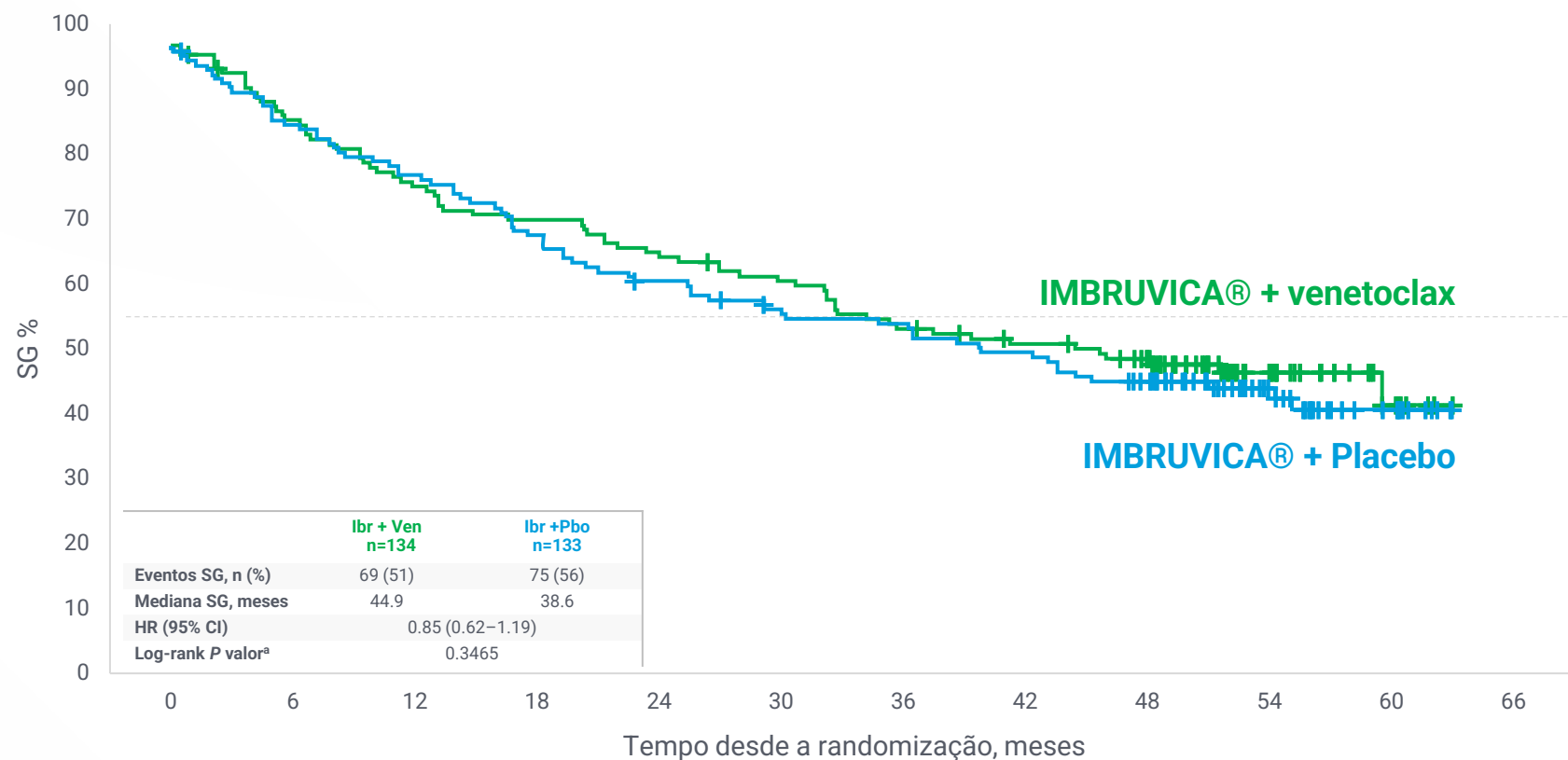


Em 51.2 meses a
mediana de TPPT
não foi atingida¹



**IMBRUVICA®
+ venetoclax**
proporcionou
uma redução de 40%
do risco de
necessidade de um
próximo tratamento¹

SOBREVIDA GLOBAL¹



Pacientes em risco

lbr+Ven	134	116	102	95	87	81	70	65	48	20	3	0
lbr+Pbo	133	115	103	88	80	70	66	61	46	20	4	0



No tempo de seguimento do estudo **não foi observada diferença estatisticamente significativa na SG** de pacientes com LCM tratados com I+V vs braço comparador¹

Adaptado de: Wang M, et al. Blood. 2023;142(Suppl.2):LBA-2

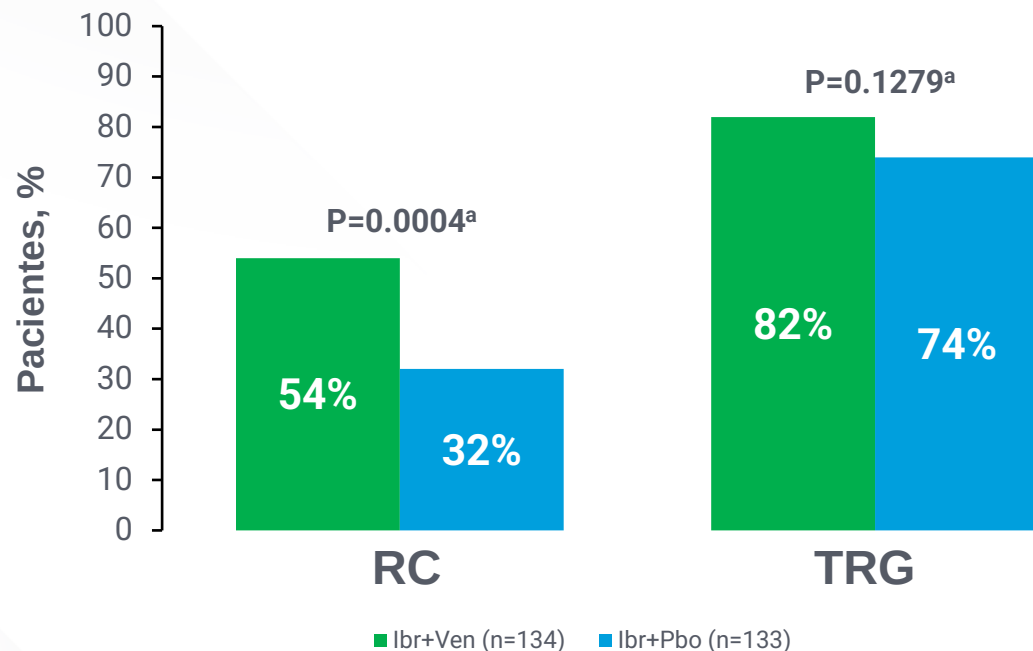
HR, Taxa de risco lbr, ibrutinibe; Pbo, placebo; Ven, venetoclax

a. Os valores de P foram determinados pelo teste log-rank estratificado (fatores de estratificação: linhas de terapia anteriores [1–2 vs ≥3] e categoria de risco de SLT [risco baixo vs aumentado]).

1. Wang M, Jurczak W, Trneny M, et al. Ibrutinib combined With Venetoclax in patients with Relapsed/Refractory Mantle Cell Lymphoma: Primary Analysis Results from the Randomized Phase 3 Sympatico Study. Blood. 2023;142 (suppl2);LBA-2

TAXA DE RESPOSTA PROFUNDAS E DURADOURAS¹

Taxa de resposta

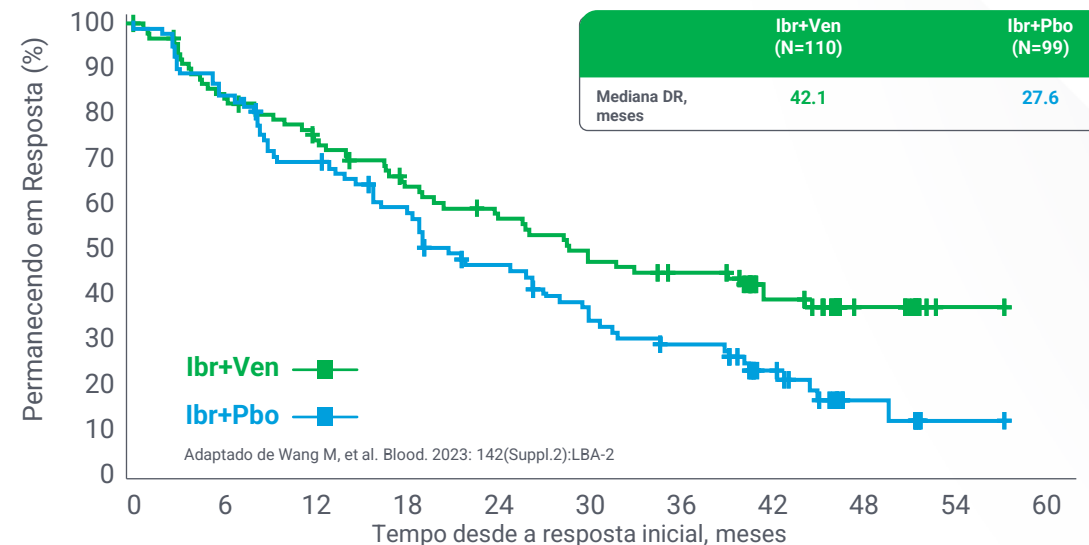


RC: Resposta Completa / TRG: Taxa de Resposta Global
Adaptado de Wang M, et al. Blood. 2023; 142(Suppl.2):LBA-2



As taxas de resposta completa foram de **22% maiores** em pacientes com uso de I+V¹

Duração da resposta^b



Pacientes em risco

1 LTP	110	93	83	72	66	58	52	37	15	1	0
>1 LTP	99	85	72	62	50	42	35	22	8	1	0



Respostas duradouras com o uso de IMBRUVICA® + venetoclax¹

Os valores de a P foram determinados pelo teste de log-rank estratificado (fatores de estratificação: linhas anteriores de terapia [1-2 vs ≥3] e categoria de risco TLS [risco baixo vs aumentado]).

1. Wang M, Jurczak W, Trnny M, et al. Ibrutinib combined With Venetoclax in patients with Relapsed/Refractory Mantle Cell Lymphoma: Primary Analysis Results from the Randomized Phase 3 Sympatico Study. Blood. 2023;142 (suppl2);LBA-2

Phase 1b/2 Study of Venetoclax, Ibrutinib, Prednisone, Obinutuzumab, and Lenalidomide (ViPOR) in Relapsed/Refractory and Treatment-Naïve Mantle Cell Lymphoma: Preliminary Analysis of Safety, Efficacy, and Minimal Residual Disease

Christopher Melani¹, Rahul Lakhota¹, Stefania Pittaluga², James D. Phelan¹, Jagan R. Muppidi¹, Max Gordon¹, Yandan Yang¹, Weihong Xu¹, Theresa Davies-Hill², Da Wei Huang¹, Craig J. Thomas³, Michele Ceribelli³, Frances A. Tosto³, Anna M. Juanitez¹, Aynah Pradhan¹, Candis Morrison¹, Atekelt Tadese¹, Colleen Ramsower⁴, Lisa M. Rimsza⁴, Allison P. Jacob⁵, Heidi Simmons⁵, Seth M. Steinberg⁶, Elaine S. Jaffe², Mark Roschewski¹, Louis M. Staudt¹, and Wyndham H. Wilson¹

¹Lymphoid Malignancies Branch, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD; ²Laboratory of Pathology, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD; ³Division of Pre-Clinical Innovation Chemistry Technologies, National Center for Advancing Translational Sciences, National Institutes of Health, Bethesda, MD; ⁴Department of Pathology and Laboratory Medicine, The University of Arizona, Tucson, AZ; ⁵Adaptive Biotechnologies, Seattle, WA; ⁶Biostatistics and Data Management Section, National Cancer Institute, National Institutes of Health, Bethesda, MD.



CONCLUSÕES

- New drugs made a revolution
BUT
Mantle cell lymphoma isn't CLL....

CONCLUSIONS

- Prepare your patient for a relapse
 - Use better drugs early!
 - Always think ahead!

A marathon, not a 100 m run....

(suggestion: keep an HLA matched donor in your pocket!!)

***LET'S LOOK FORWARD AND WORK HARD TO
FIND THE CURE!!***

Meanwhile....

Obrigada! Gracias! Thank you!



CONFIRA O CONTEÚDO ATUALIZADO
MOC-Hemato 2024



LinkedIn: [linkedin.com/in/danielle-leao](https://www.linkedin.com/in/danielle-leao)

Orcid: [02.3140.2235](https://orcid.org/02.3140.2235)

Site: linkme.bio/danielleleao.hemato/

danileao10@gmail.com

