CML and Ph-positive ALL in 2025: What is new at MDACC?

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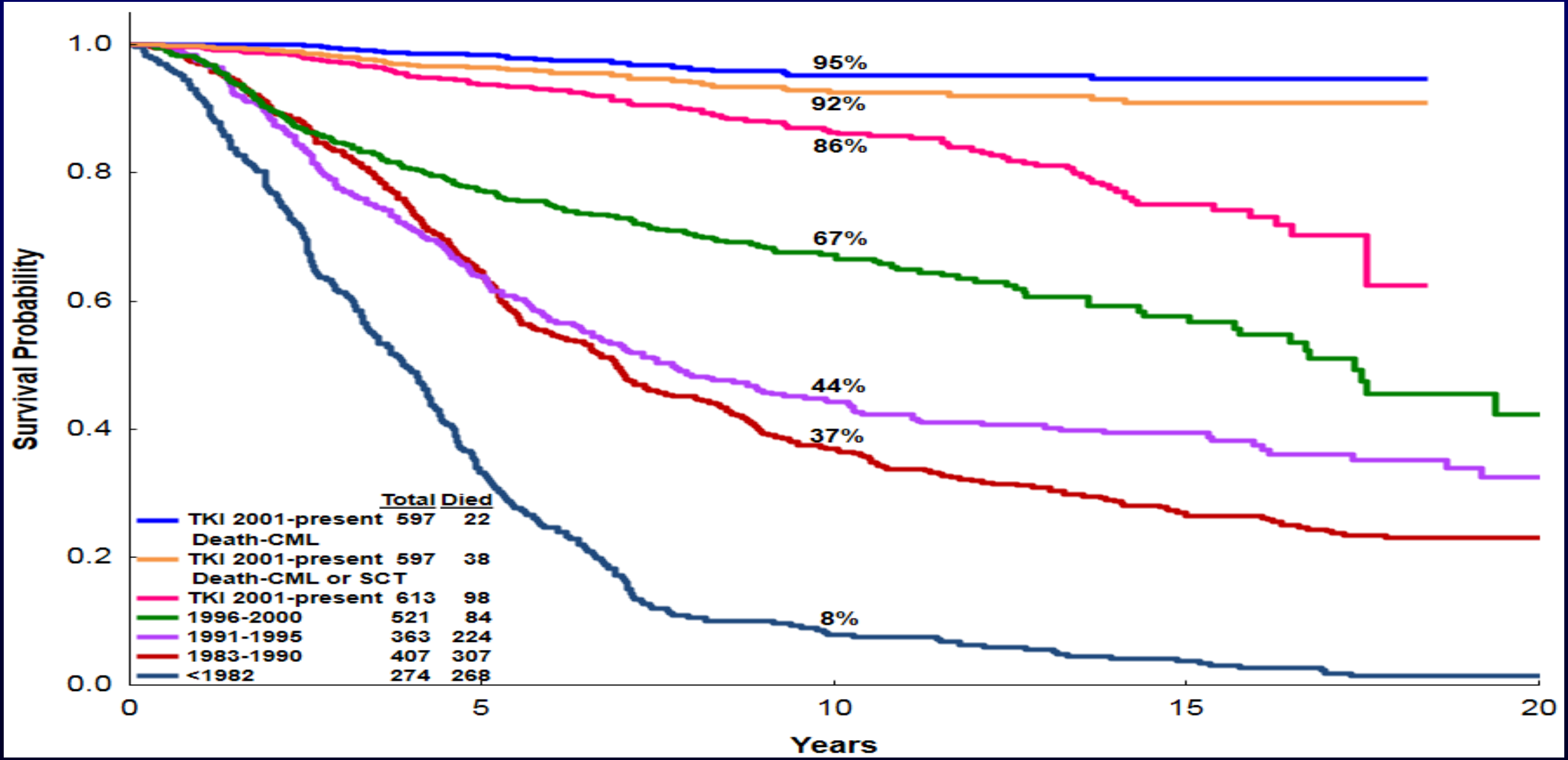
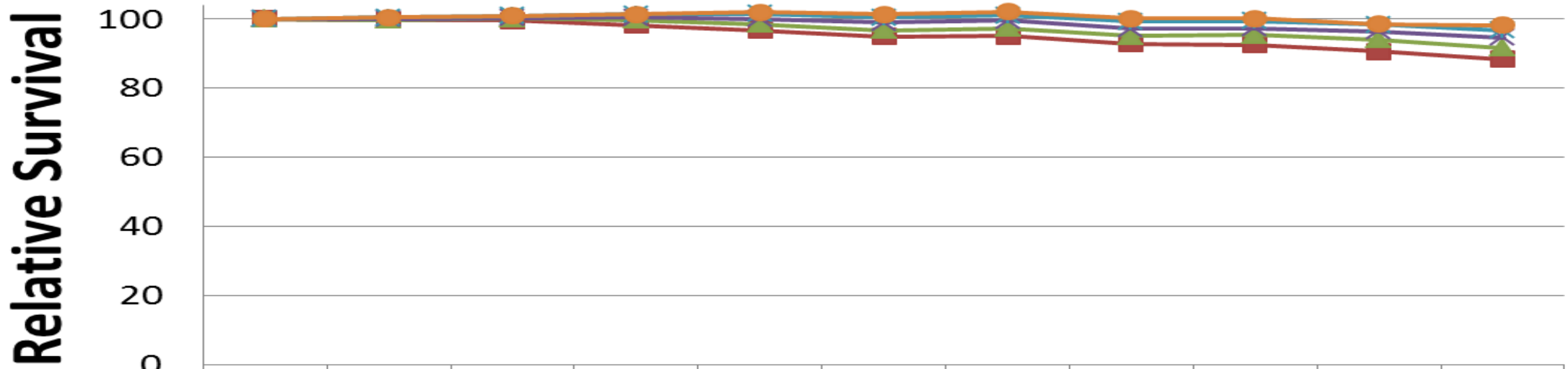
CML. Survival at MDACC 1975 - 2019



Harrison's Principles of Internal Medicine. 2014. And unpublished update 2019

Relative Survival with TKI by Response to Therapy

- 483 pts with CML treated with imatinib 400mg (n=71), imatinib 800 mg (n=201), dasatinib (n=111) or nilotinib (n=101)
- 5-yr relative survival 94.8% [92.1 - 97.4]



	0	12	24	36	48	60	72	84	96	108	120
All	100.0	99.6	99.5	98.2	96.7	94.8	95.0	92.7	92.5	90.6	88.3
CCyR	100.0	99.7	100.1	99.7	98.4	96.7	97.2	95.1	95.3	94.0	91.7
MMR	100.0	99.9	100.3	100.4	100.0	98.9	99.5	97.2	97.3	96.4	94.5
MR4.5	100.0	100.4	100.8	101.3	101.4	100.4	101.0	99.2	99.4	98.3	96.7
CMR	100.0	100.4	100.8	101.3	101.8	101.4	102.0	100.2	100.1	98.5	98.2

Month

Sasaki . Lancet Hematology 2: e186-193; 2015

Therapy of CML in 2025

- Frontline
  - imatinib 400 mg daily
  - dasatinib 100 mg daily (50 mg at MD Anderson)
  - nilotinib 300 mg BID
  - bosutinib 400mg daily
  - asciminib 80 mg daily

- Second / third line
  - nilotinib, dasatinib, bosutinib, ponatinib, asciminib omacetaxine
  - allogeneic SCT
- Other
  - decitabine, peg IFN, omacetaxine (only 2-5days/mo)
  - hydrea, cytarabine, combos with TKIs

How Do I Treat Frontline CML-CP in 2025

- Generic imatinib 400 mg daily (use CostPlus or similar; < $50/month); lower than out-of-pocket cost on insurance
- Dasatinib 100 mg daily (FDA/SOC); 50 mg daily equally effective and half price
- Bosutinib 400 mg daily (200-300-400 escalation to avoid GI/early DC)
- Nilotinib 300 mg BID; lower to 150 mg BID or 200 mg daily once in MR2/MMR to avoid AOEs
- Asciminib 80 mg daily
- Any of above 5 good if endpoint is survival
- High risk Sokal – 2nd GEN TKIs better
- If TFR is important (younger CML) – 2nd GEN TKIs
- TKI choice also depends on : 1) age (e.g. dasatinib 20 mg daily if age 70+); 2) cost (generic imatinib affordable even to poorest); 3) Rx aim (survival vs TFR); 4) co-morbidities – eg avoid dasatinib if COPD, PH; avoid bosutinib if GI/hepatic/renal issues; avoid nilotinib if history of AOEs or diabetes; etc

Senapati. Blood Cancer Journal 13:58; 2023.

Kantarjian. Lancet Haematology 10: e860-e864; 2023

5 Factors Determine Frontline Rx in CML: Age, Rx Aim, Cost, CML Risk, Comorbidities

Factor	Category	TKI
Age and Rx aim	-- Younger/TFR	Dasatinib 50 mg Bosutinib 200-400 mg
	-- Older/Survival	Imatinib 400 mg
Cost	Cannot afford out of pocket expenses	Imatinib generic (Cost Plus $500/yr)
CML risk	High Sokal	Dasatinib, bosutinib
Comorbidities	AOEs, DM, COPD, renal, pancreatitis	Select TKI that causes least problems

Jabbour E, et al. Am J Hematol. 2022;97:1236-1256.

CML Frontline Therapy

- Up to 17, and 9 main studies compared new-generation TKIs to imatinib frontline: ENESTnd (nilotinib), DASISION (dasatinib), BFORE (bosutinib), EPIC (ponatinib), ASC$ FIRST (asciminib)
- All showed higher rates of favorable early surrogate endpoints: CGCR, MMR, MR4.5, ↓ AP/BP; none has shown survival benefit
  - —Very good salvage options
- Increased uncommon toxicities with newer TKIs: PAOD-MI-TIA, pancreatitis, pleural effusions; HT and pulmonary HT, ↑ BS, vasospastic reactions, ↑ non-CML deaths

Jabbour E, et al. Am J Hematol. 2024

CML Failure and Rx Changes

- CML failure from 1)TKI side effects, or 2) resistance
- If side effects, adjust TKI dose before changing to 2nd TKIs
- If resistance, check BCR:: ABL1 mutation and decide on 2nd or 3rd generation TKI based on mutations, prior TKIs, co-morbidities, etc
- Resistance = CG relapse (PCR >1%, or >0.5% consistently)

CML. Criteria for Failure and Suboptimal Response to Frontline TKI – ELN 2020

Time (mo)	Response		
	Failure	Warning	Optimal
3	BCR-ABL1 >10% if confirmed within 1-3 months	BCR-ABL1 >10%,	BCR-ABL1 ≤10%
6	BCR-ABL1 >10%	BCR-ABL1 >1-10%	BCR-ABL ≤1%
12 and beyond	BCR-ABL1 >1%	BCR-ABL1 >0.1-1%	BCR-ABL1 ≤0.1%
Any time	>1%, resistance mutations, high-risk ACA	BCR-ABL1 >0.1-1% Loss of ≤0.1% (MMR)	BCR-ABL1 ≤0.1%

- For patients aiming at TFR, the optimal response (at any time) is BCR-ABL1 ≤ 0.01% (MR4)
- A change of treatment may be considered if MMR is not reached by 36–48 months

Hochhaus. Leukemia 2020; 34: 966-984

Sequence of Frontline and Salvage Strategies in CML

	Choice of TKI	
Frontline Rx	**Dasatinib 50mg/D**	**Imatinib 400mg/D**
Salvage for Resistance	**-Ponatinib 45mg/D if T315I; 30mg/D if no guiding mutations – reduce to 15 mg/D when PCR<1%**	**-Dasatinib 50→100mg/D or bosutinib 300-500 mg/D -if failure then ponatinib**
Salvage for toxicities	**Bosutinib 300-500mg/D**	**Dasatinib or bosutinib**

- **Avoid use of nilotinib frontline because of 10-yr CV problems 24+%**
- **Always adjust TKI dose if side-effects before considering change of TKI**

CML Therapy Post Frontline Failure

- Dasatinib 100 mg/D
- Nilotinib 400 mg BID
- Bosutinib 300-500 mg/D
- Ponatinib 30-45 mg/D (T315I; failure> 2 TKIs)
- Asciminib 40 mg BID (third line therapy, ie failure > 2 TKIs);200 mg BID for T315I but data minimal
- Omacetaxine, decitabine/azacitidine, cytarabine, hydrea – can be added to TKIs
- Allo SCT

Response and PFS with 2nd-Gen TKIs in Imatinib-Resistant CP-CML

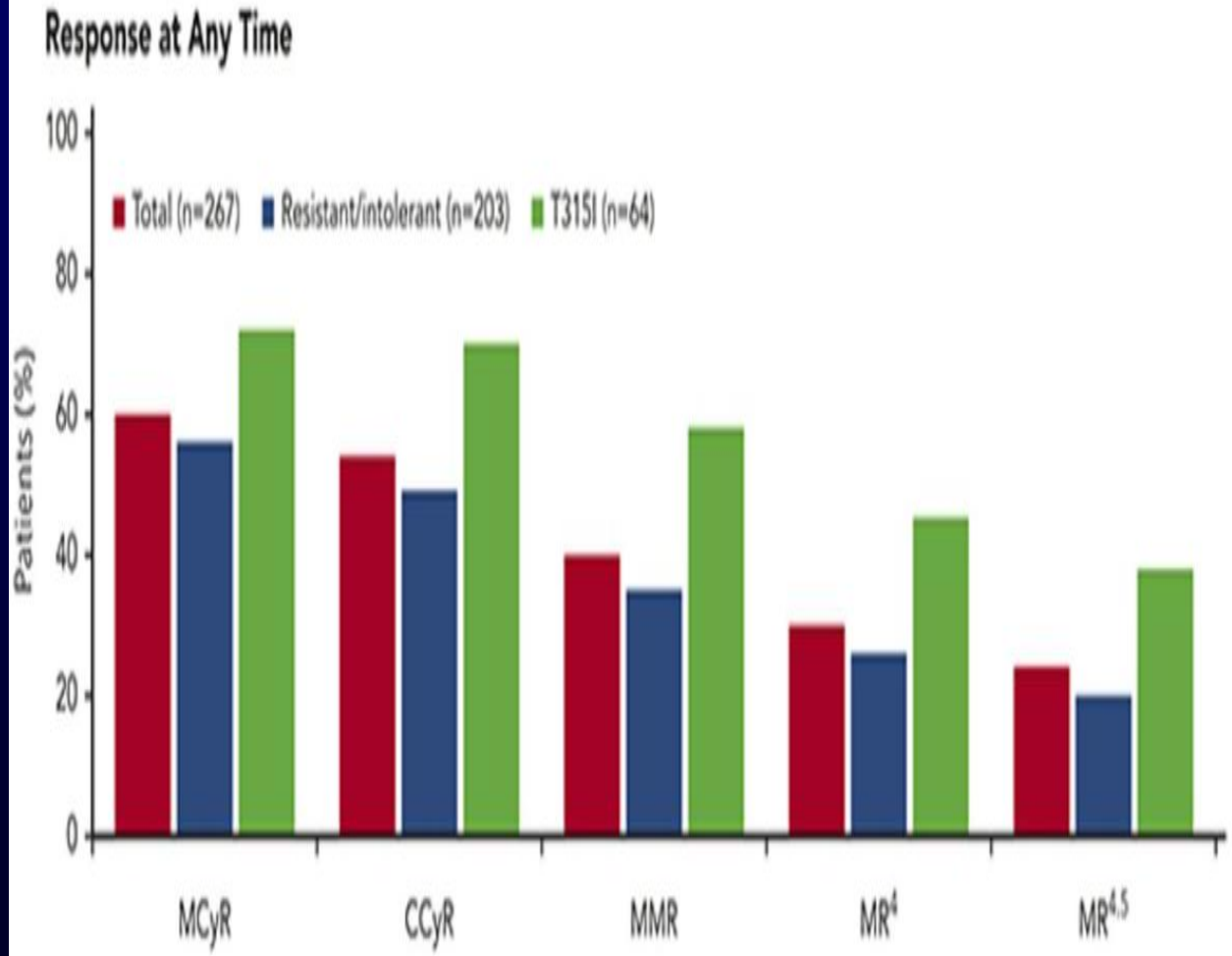
TKI	Dasatinib[1,2]		Nilotinib		Bosutinib
Follow-up	**2 years[1,2]** (minimum follow-up)	**6 years[3]** (data lock at 6y)	**2 years[4]** (minimum follow-up)	**4 years[5]** (minimum follow-up)	**2 years[6]** (minimum follow-up)
Number of pts	167*	167*	226	321*	200
Discontinued, n (%)	NR	114 (69)	197/321 (61)	224 (70)	108 (54)
MCyR	63%*	NR	56%	59*	58%
CCyR	50%*	NR	41%	45*	46%
PFS, %	80*	49*	64*	57*	81*

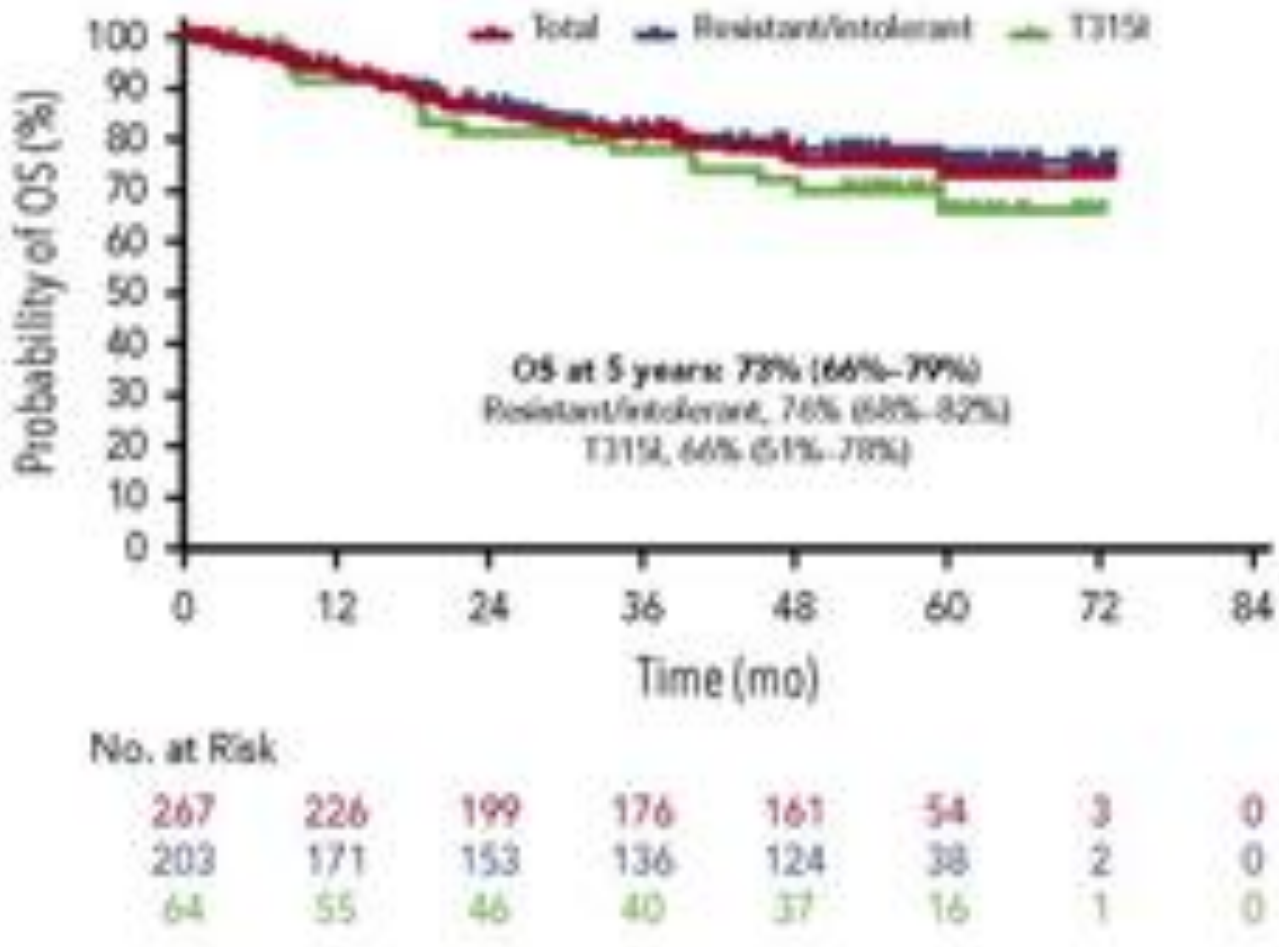
***Includes imatinib-intolerant patients. NR, not reported.**

1. Sprycel® (dasatinib). Official prescribing information. November 2012.
2. Shah NP, et al. J Clin Oncol. 2010;28:15s (abstract 6512).
3. Shah NP, et al. Blood. 2014;123:2317-24.
4. Kantarjian HM et al. Blood. 2011;117:1141-1145.
5. Giles FJ, et al. Leukemia. 2013;27:107-12.
6. Gambacorti-Passerini C, et al. Am J Hematol. 2014 [Epub ahead of print].

Ponatinib in CML—CP (PACE)

- 449 pts Rx; 270 in CP
- CG major 60%, MMR 40%, 5-yr OS 73%

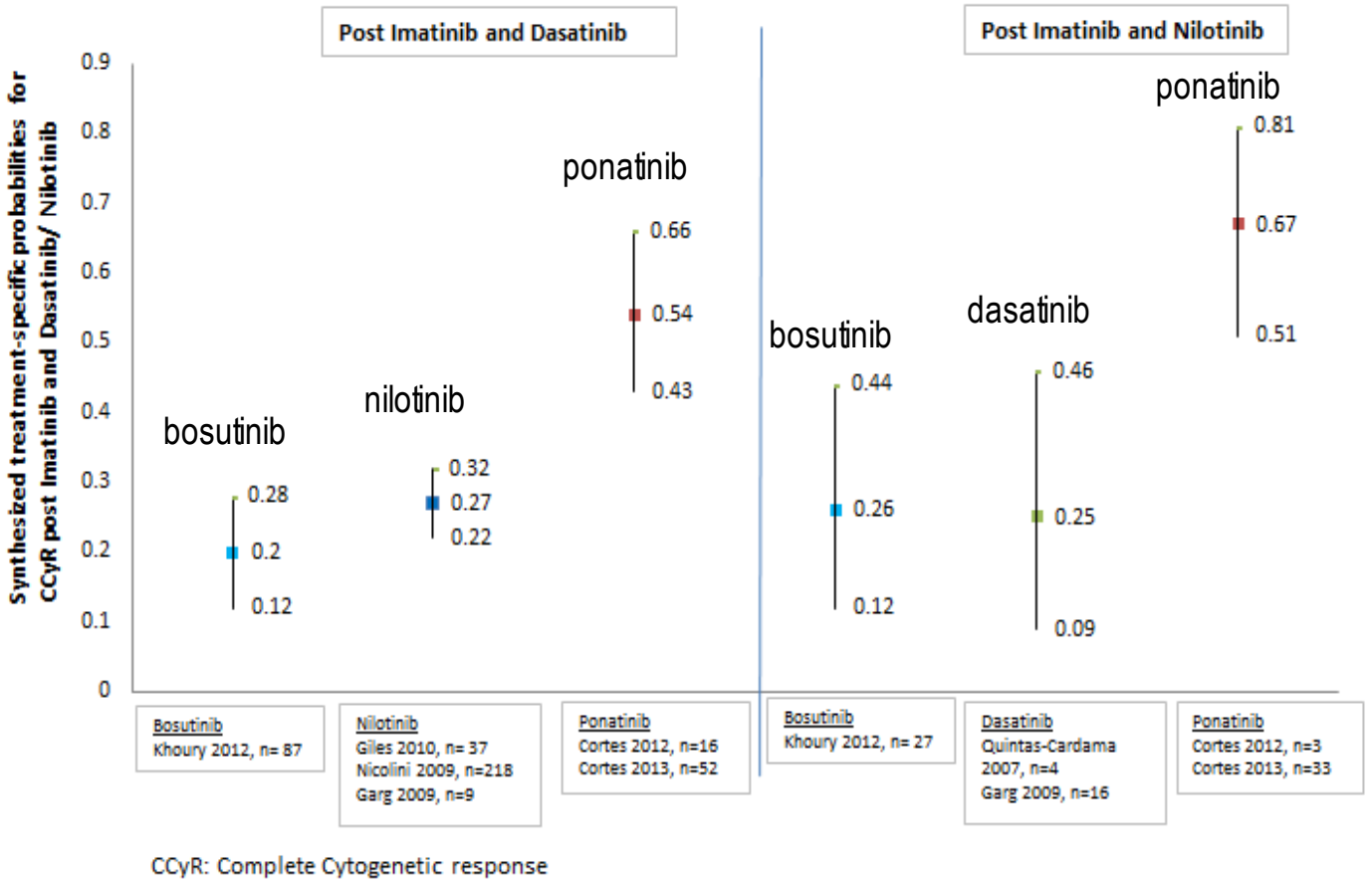




Cortes. Blood 132: 393; 2018

Comparative Efficacy of Third-line Therapy After Failure of Imatinib and Dasatinib or Nilotinib

Figure 1: Synthesized treatment-specific probabilities (and 95% Credible Intervals) of achieving CCyR post Imatinib and Dasatinib/ Nilotinib



CCyR: Complete Cytogenetic response

Lipton JH, et al. Leuk Res. 2015 Jan;39(1):58-64

OPTIC-Ponatinib Dose Range

- 283 pts in CML CP resistant or intolerant to 2+ TKIs; randomized to ponatinib starting dose 45, 30, 15mg/D. All reduced to 15mg/D once PCR ≤ 1% (CGCR)

% PCR≤1% 12 mos	45-15 (n=91)	30-15 (n=90)	15 (n=88)
Overall	48	34	24
No mutations	41	36	26
T315I	60	25	6
Other	53	43	33
≤ 2 TKIs	48	42	26
3 + TKIs	49	30	22
% severe arterio-occlusive disease	0-4	3-4	0

Cortes. Blood 138: 2042–2050; 2021

Ponatinib in T315I-Mutated CML-CP (OPTIC)

- 283 pts; 67 with T315I+ CML-CP, resistant to 2+ TKIs
- Randomization to PONA 45, 30, 15mg ID; reduce to 15mg/D once MR2

Parameter	45-15	30-15	15-15
% MR2			
T315I	64	25	16
Overall	60	41	40
% 4-yr OS			
T315I	86	70	75
Overall	88	86	88
%TE-AOES	8	14	5

- Conclusion—In T315I-mut CML, ponatinib 45mg/D better and reduce to 15mg once MR2

Deininger. J Clin Oncol 24: abst 6501; 2024

Adjusted-dose Ponatinib in CML-CP (PACE; OPTIC)

- 364 pts—PACE 270 (resist +intol), OPTIC 94 (all resist or T315I)
- PACE—45mg; adjust for AEs
- OPTIC 45mg; reduce to 15mg in MR2 (PCR<1%)
- Prior 2+TKIs 93-99%; 3+TKIs 53-60%

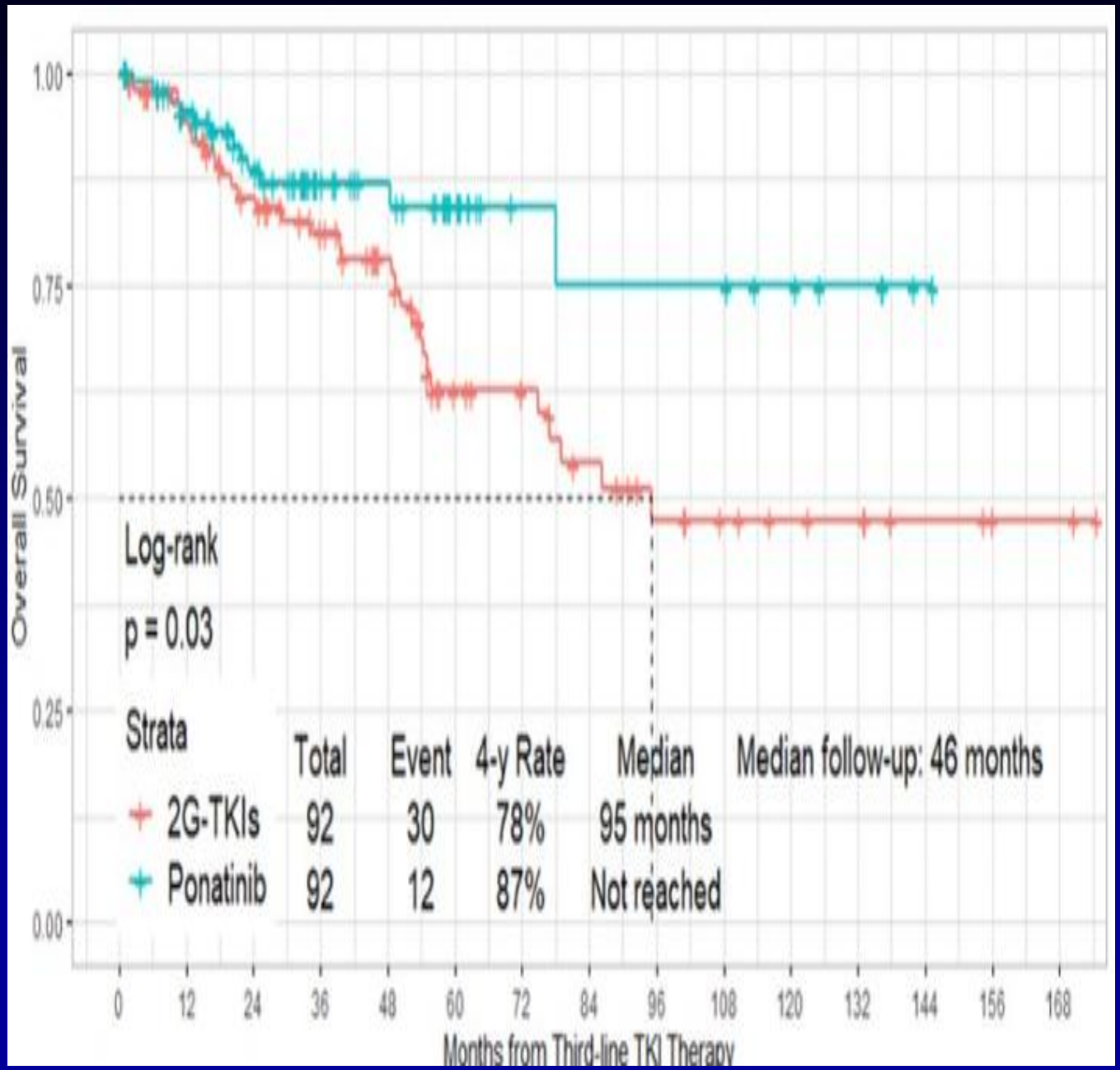
Parameter	PACE	OPTIC
2-yr MR2	52	56
2-yr PFS	68	80
2-yr OS	86	91
Median time on Rx	12.6	19.5
Exposure-adjusted TE-AOEs/100 pts-yrs	16	7.6

Jabbour. Leukemia. 2024 Jan 29

Third-Line TKI Therapy in CML Chronic Phase

- 354 pt in CML-CP Rx with 3-L TKI : 204 from MDACC, 63 from PACE, 87 from OPTIC
- 3-L Rx: dasatinib 69; nilotinib 64; bosutinib 40; ponatinib 181 (51%)
- PCR 16% at time of 3-L Rx
- MVA—Ponatinib favorable

Outcome	Ponatinib	2GN TKI	p value
% 4-yr PFS	75	58	<0.001
% 4-yr OS	87	78	0.03



Jabbour. Am J Hematol 98: 658-665; 2023

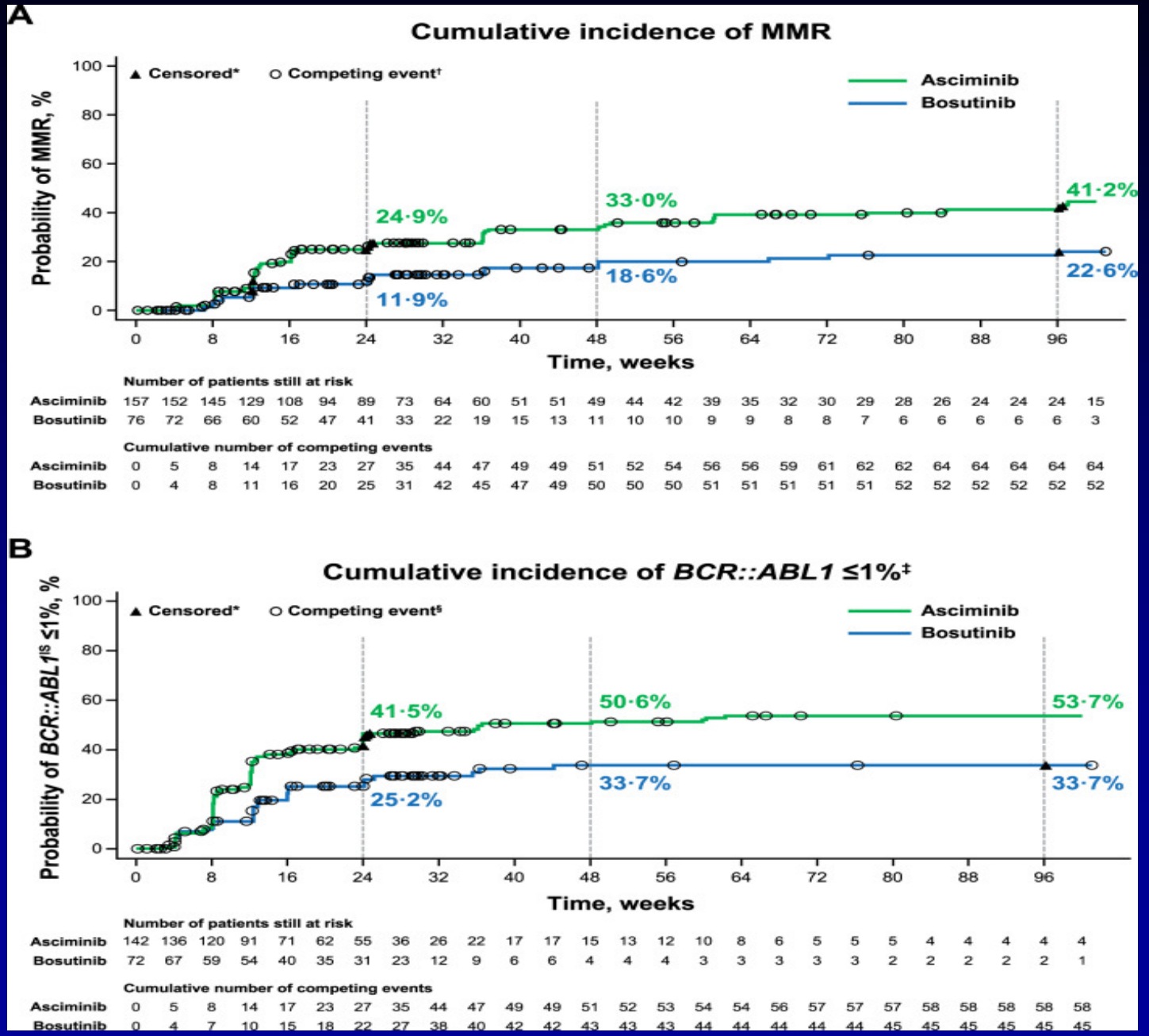
When and How to Use Ponatinib ?

- Standard practice —1) T315I mutation or; 2) Failure of 2 TKIs including second generation TKI—use 45mg daily
- My suggestion—T315I mutation (use 45 mg/D); or resistance to second TKI without guiding mutations —use 30mg/D

Asciminib vs Bosutinib 3rd Line Rx in CML-CP

- 233 pt failing 2+ TKIs randomized (2:1) to asciminib 40mg BID (n=157) or bosutinib 500mg/D (n=76)
- 2-yr OS 97% vs 99%
- Asciminib AOEs 8/157 (5%) with median FU 2.3 yrs
- Bottomline: early MMR does not translate into OS benefit

Parameter	Asciminib	Bosutinib
% 2-yr MMR	38	16
% 2-yr PFS	94	91
% 2-yr OS	97	99
% G 3-4 AEs	56	68
% AEs & DC	8	26

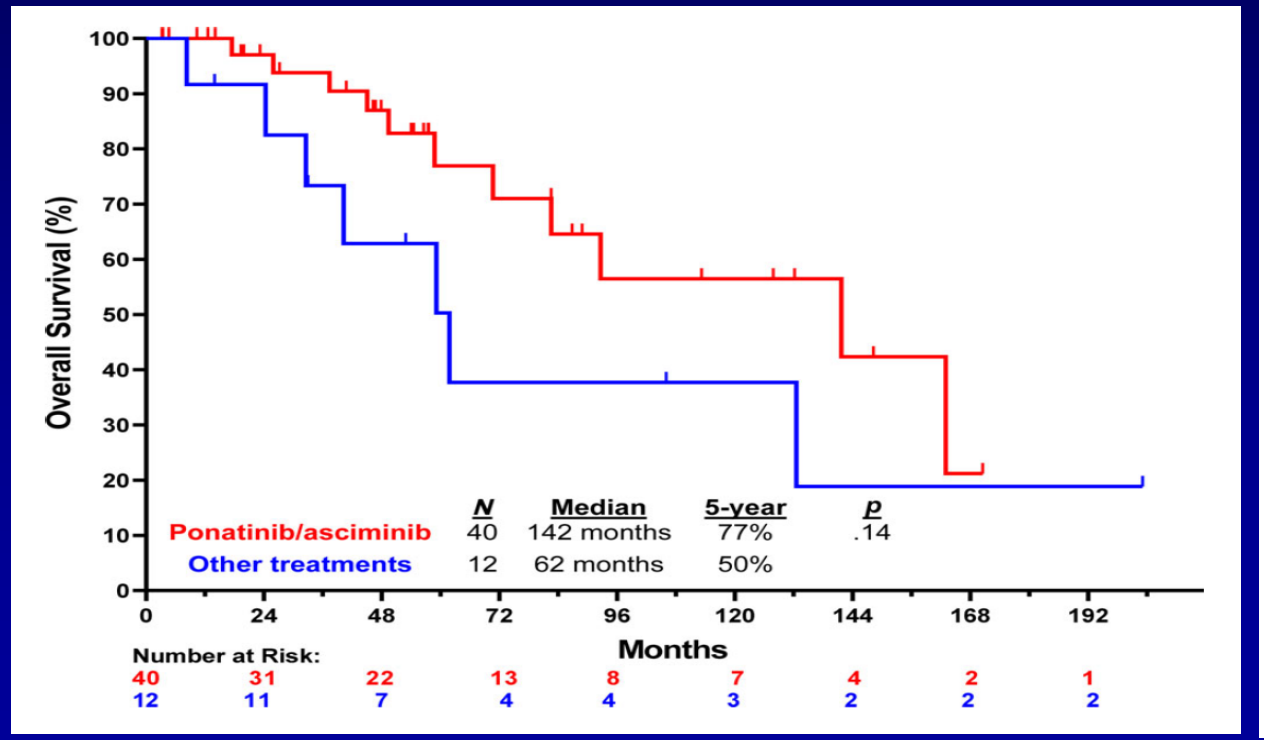


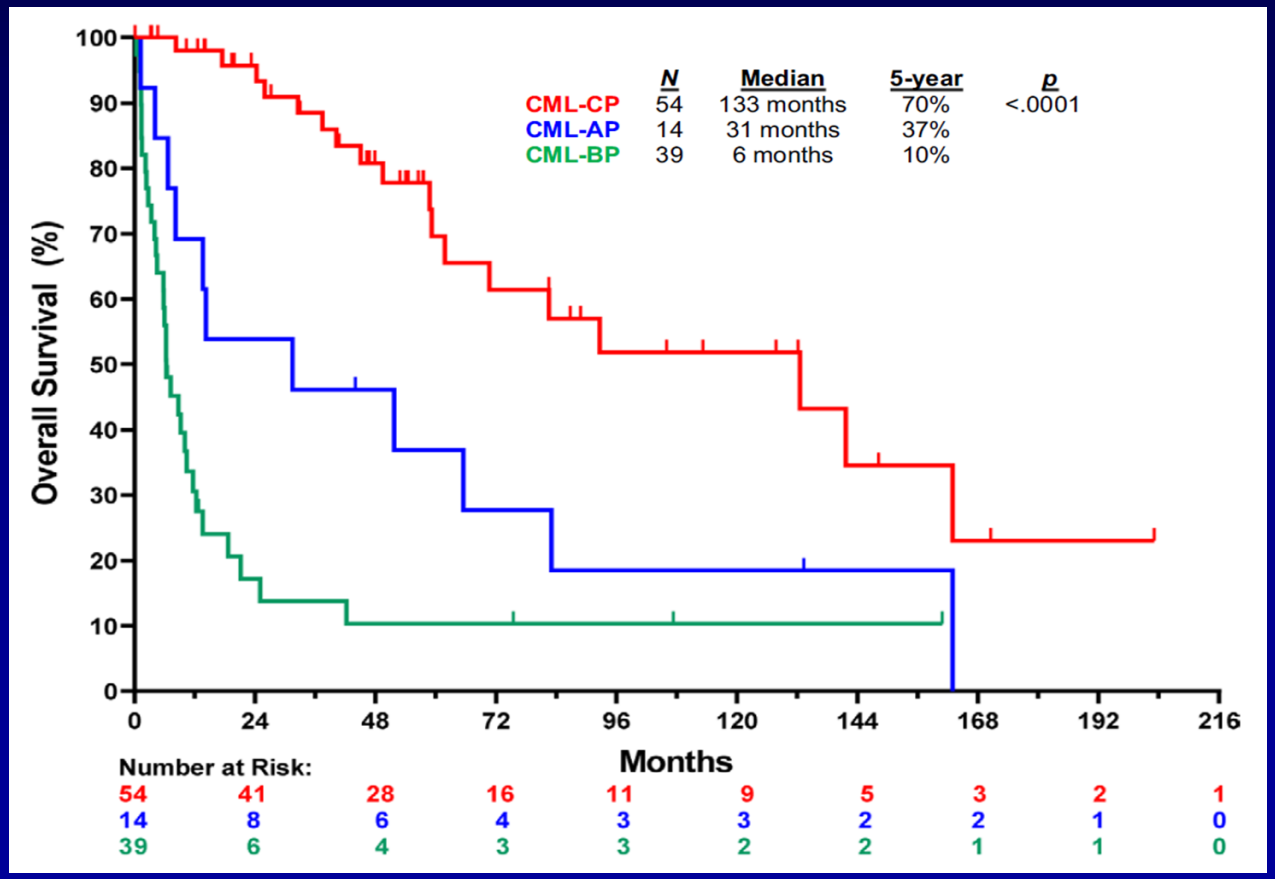
Hochhaus. Leukemia 37: 617-626; 2023

Outcomes of CML with T315I mutation

- 107 pts -- 54 CP, 14 AP, 39 BP . Median prior Rx 3 (1-9). Median Dx-T315I 41 mos
- Post-T315I: ponatinib (43%), chemo +/- TKI (36%), 2G-TKIs (10%), asciminib (7%), ASCT (17%)
- CML-CP: 5-yr OS 77% with ponatinib/asciminib *vs*. 50% with other therapies
- MVA: - worse OS with AP (HR, 4.35), BP (HR, 16.6), and >2 prior TKIs (HR, 2.33); better OS with ponatinib/asciminib (HR, 0.46) and ASCT (HR, 0.06)

CML Phase	Median OS (mos)	% 5-yr OS
CP	132	70
AP	31	37
BP	6	10





Haddad . Am J Hematol 98: 1619-1626; 2023

Asciminib Phase 1 Trial in T315I-Mutated CML CP

- 48 pts with CML-CP and T315I Rx with ASCI 200mg BID. 2 TKIs 83%. Median exposure 3.5 yrs
- MMR 86%, MR4 31%
- 26 ponatinib “exposed”- MMR 38%
- AOEs 12.5%

Cortes. Blood 144; abst 1765; 2024

Rx of *T315I*-mutated CML

- Ponatinib 45 mg/D until PCR<1%, then 15 mg/D
- If ponatinib toxicity after dose adjustment, many consider asciminib 200 mg BID -- BUT $650.000/year = not good Rx value
- Alternatives: allo SCT (young); omacetaxine, HMA, araC +/- VEN until T315I clone disappears; then add 2nd GEN TKI (old).
- If ponatinib resistance, asciminib may not be effective

Olverembatinib Active in CML

- 80 pts Rx with OLVER 30, 40, 50 mg QoD; 65 (78%) 3+TKIs. Prior PONA 46 (57%); prior ASCI 25 (31%)

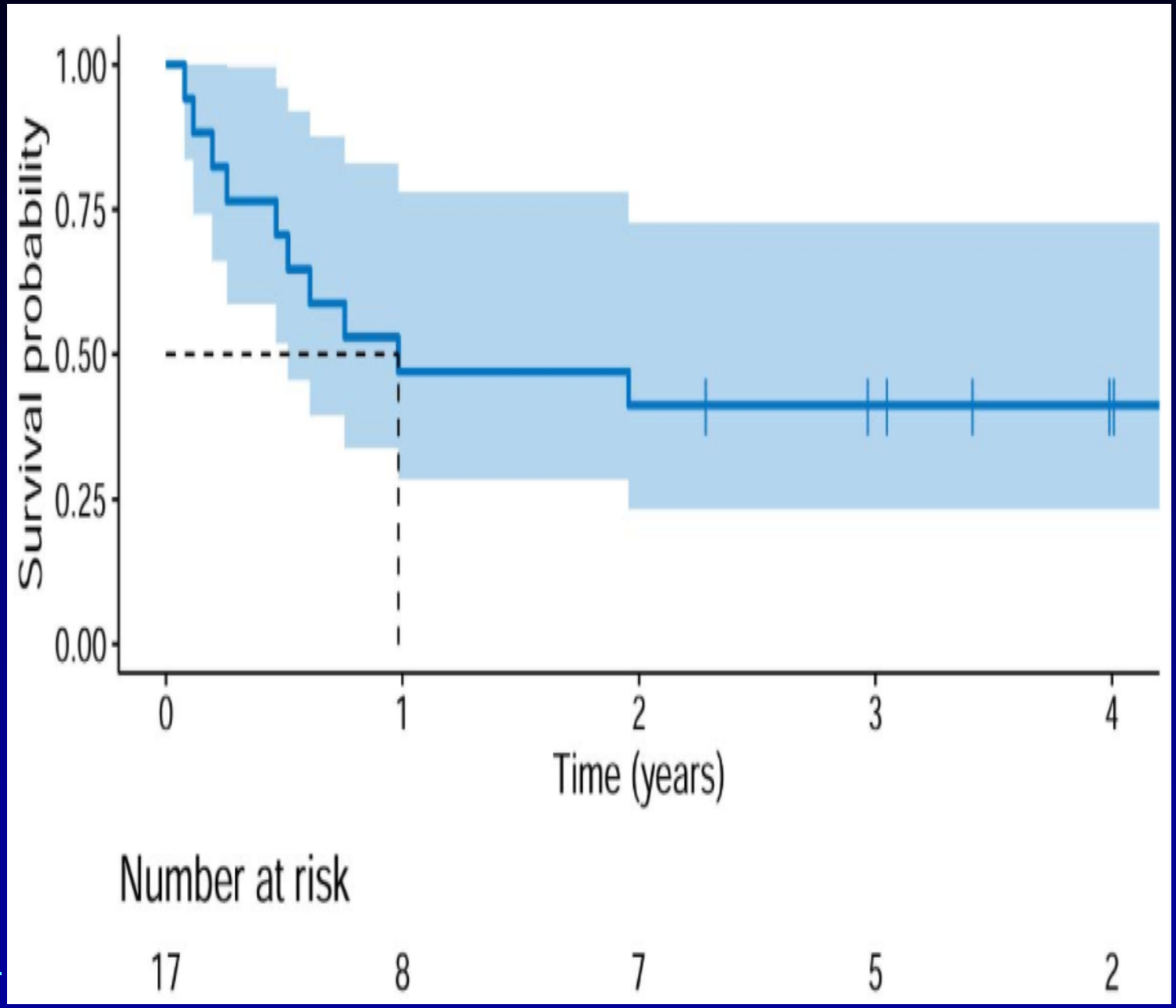
CML Phase/prior Rx	No (CCyR/MMR)	% CCyR	% MMR
Chronic	51	61	42
Prior PONA	26/30	58	37
Resist	19/21	53	43
Int	4/6	3	17
Prior ASCI	8/12	50	33
Advanced CML	14/17	21	18

Jabbour. JAMA Oncol. 2025;11:28-35

FLAG-IDA + Ponatinib in CML Myeloid BP

- 17 pts in CML-MBP Rx with FLAG-IDA + ponatinib
- 11/17 back to CP;

  CG CR 5/17; MMR 5/17
- Rx related death 3; allo SCT 12
- Median OS 12 mos



Copeland. Lancet Haematology; online December 11, 2021

Ponatinib-Based Rx in CML-BP

- 76 pt with CML-myeloid BP: 50 first Rx, 21 salvage
- Additional Rxs: IC 28, IC+VEN 7, HMA+VEN 18, HMA 6, PONA alone 17— Later HSCT 15
- ORR 50%; CR + CRi 40%. CCyR 28%
- Median OS 8.5 mo; 2 yr OS 27%

Parameter	% ORR	% 2 yr OS	
-First line	62	68	P=.005
Salvage	27	14	
-Combo	56	-	P=.06
Mono	29	-	
-HSCT	-	71	
No HSCT	-	38	

Karrar. Blood 144: abst 3156; 2024

Rx of CML Post Frontline TKI Failure – Summary 2025

- Frontline Rx excellent (and getting better and safer)
- Most patients can remission on first frontline TKI with proper monitoring, patience, and TKIs dose adjustment (2/3rd at 10 years)
- 2nd line options equivalent; ponatinib post 2nd GEN resistance
- 3rd line - ponatinib better efficacy:safety profile with dose adjustments; asciminib FDA approved

Management of Ph-Positive ALL. A Success Story

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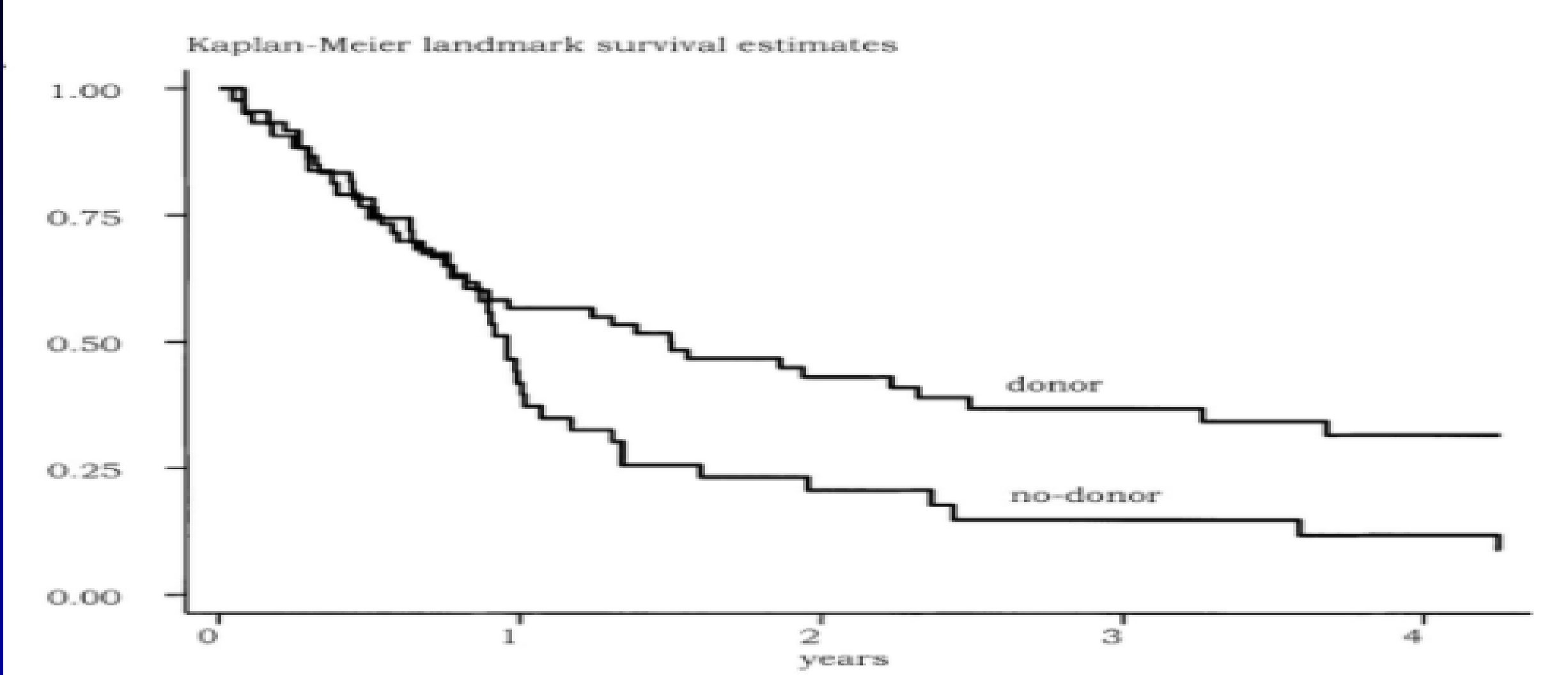
Fall 2024

SCT for Ph+ ALL. Pre-TKI



- Donor (n=60) - 3-year OS: 37%
- No donor (n=43) – 3-year OS: 12%

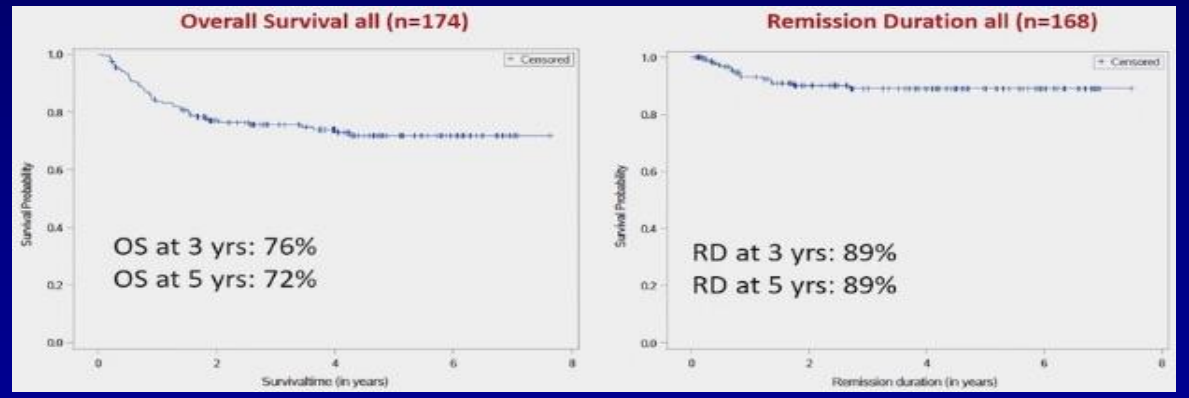
Dombret H et al *Blood* 2002

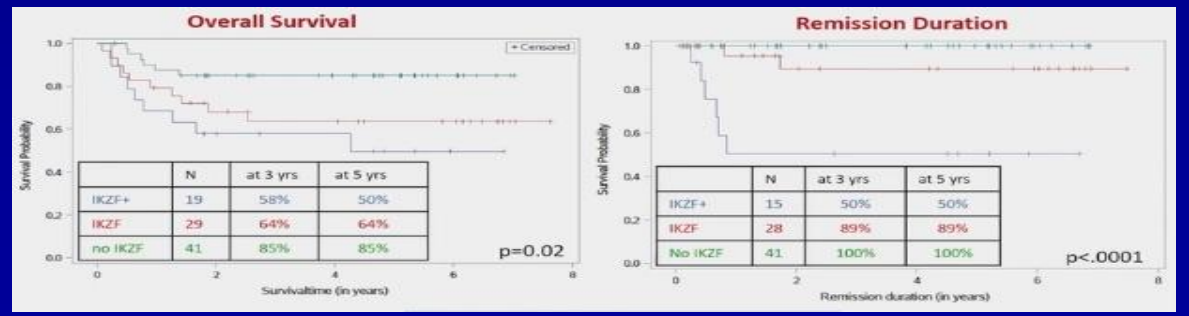
Ph-Positive ALL on GMALL

- 174 pts; median age 42 yrs (18-55)
- Imatinib 600mg/D + LI ChemoRx; then allo HSCT 160/174 (92%; 98% of CRs; median time to SCT 4 mos)
- CR 85% post induction; CR 96% overall
- Molecular CR 9% post induction, 42% post C3
- 3-yr OS 76%; 3-yr OS post HSCT 81%; Rx mortality 16%

	after Induction I	pre Consolidation I	after Consolidation I
Evaluable cytology	165	174	174
CR/CRu	**85%**	**96%**	**94%**
PR	9%	2%	0%
Failure	4%	1%	2%
Early Death	**1%**	**1%**	**3%****

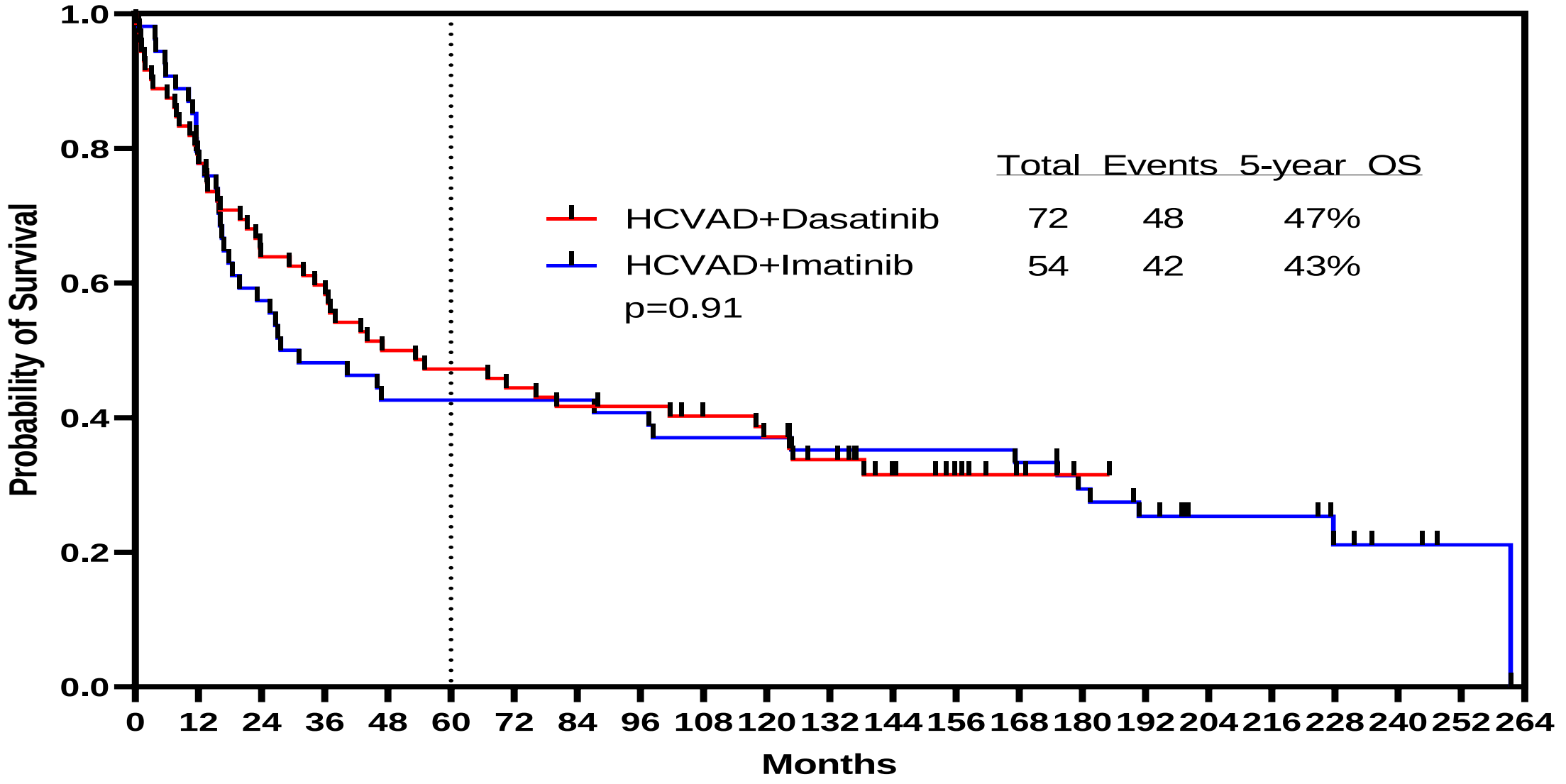
	After Induction I	Pre Consolidation I	After Consolidation I
MRD Total	174	150	144
MRD Evaluable	139 (80 %)	150 (87%)	144 (87%)
Mol CR	9 %	24 %	42%
Mol Fail	81%	58%	38%
$\geq 10^{-2}$			17%
$<10^{-2} \geq 10^{-3}$			41%
$<10^{-3} \geq 10^{-4}$			43%
Mol IMR	25%	18%	21 %





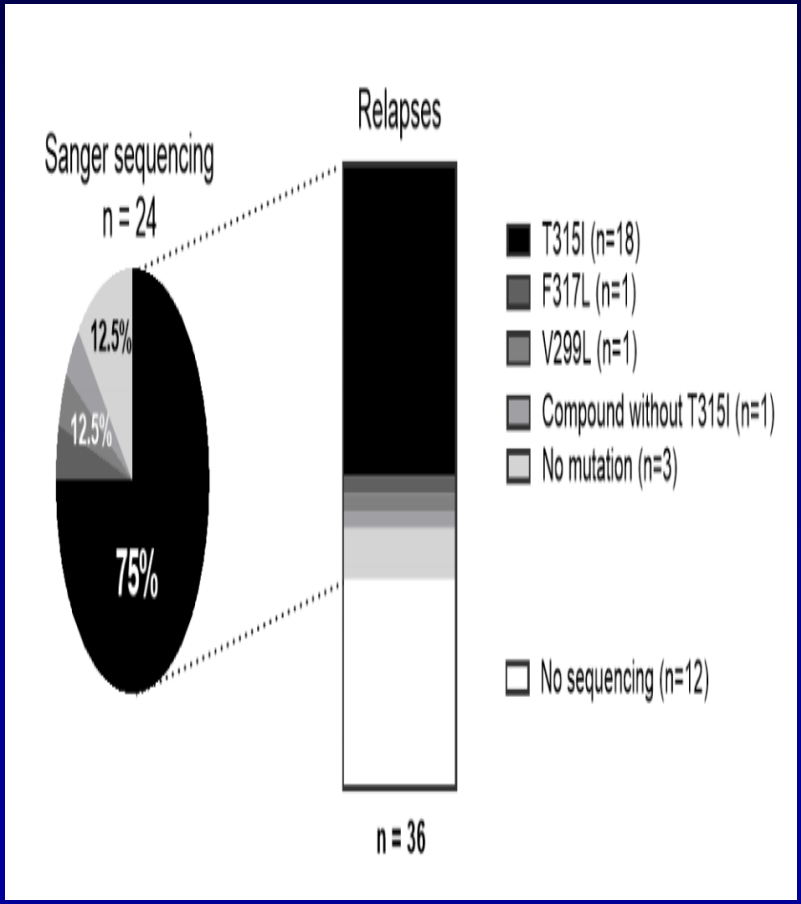
Pfeifer. Blood 144: abst 840; 2024

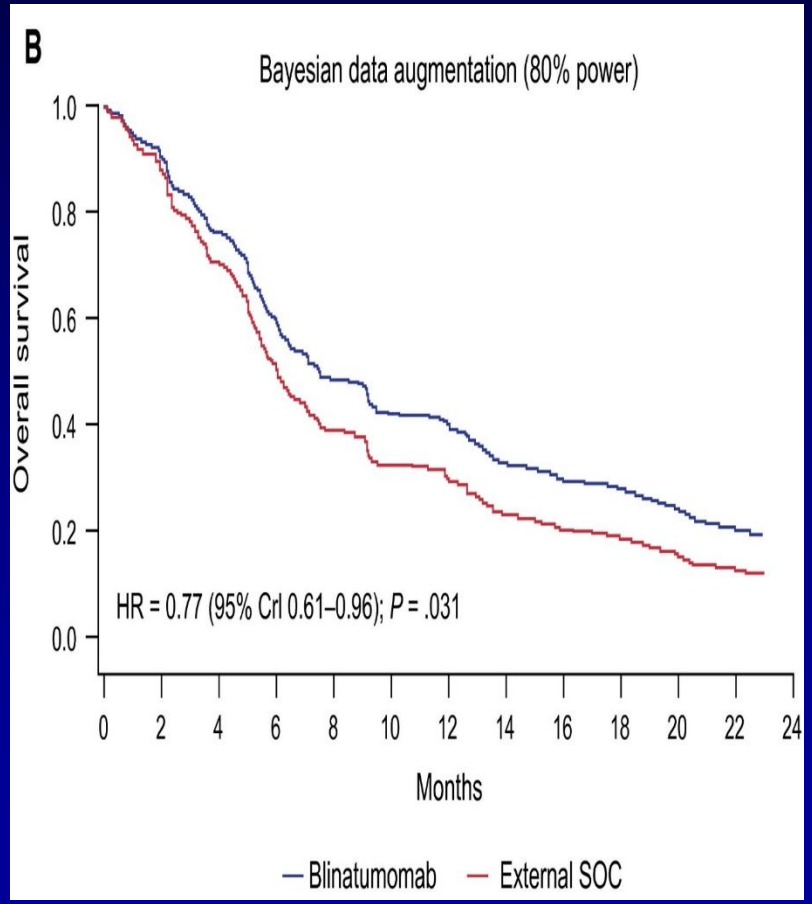
Ph-positive ALL 1st/2nd Generation TKI. Survival

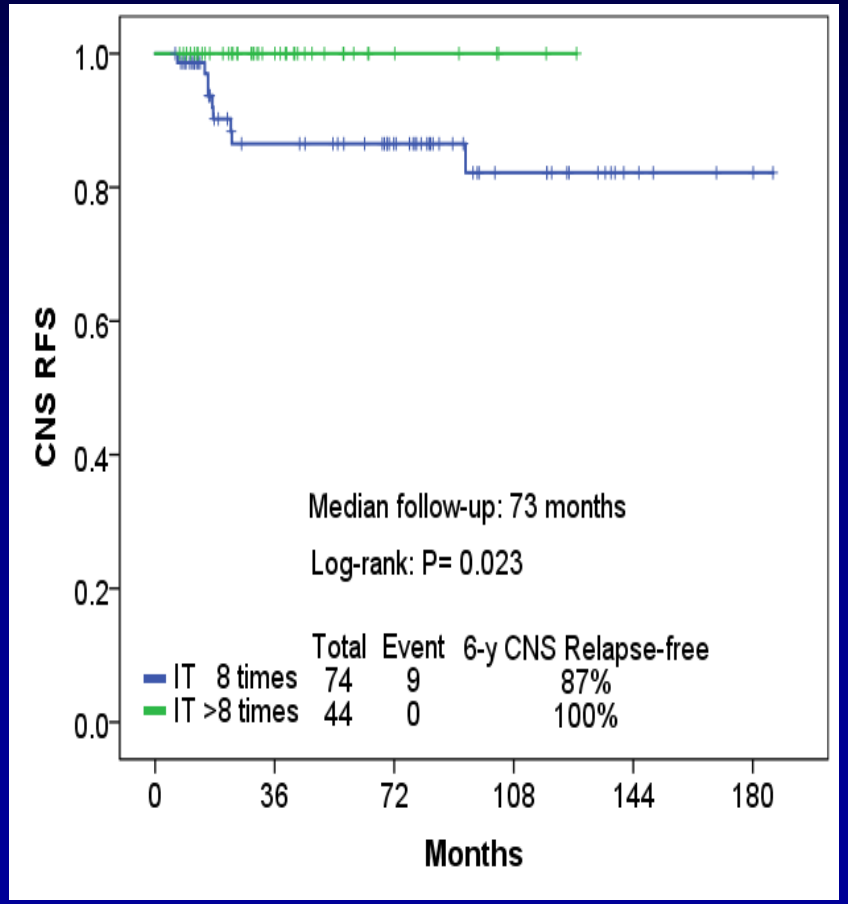


Reasons for Rx Changes in Ph-positive ALL

- T315I KD mutation present in 18/24 patients (75%) Rx with Dasatinib at time of relapse
- Blinatumomab > ChemoRx CR/CRh 36% vs 25%; 1-yr OS 41% vs 31%
- More IT needed





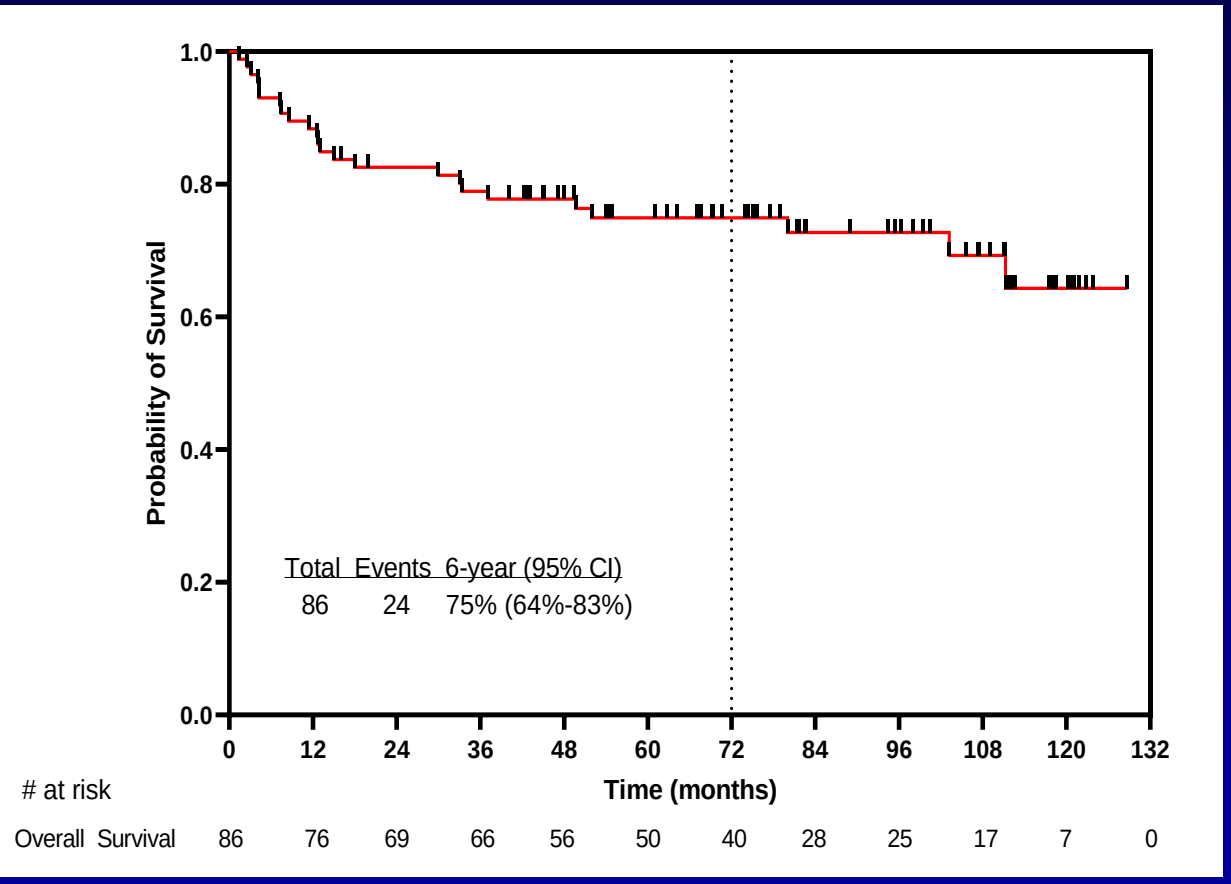


Rousselot. Blood 2016;128(6):774-82. Rambaldi. Cancer. 126: 304-310; 2019. Paul. Am J Hematol. 2023;98(1):E11-E14

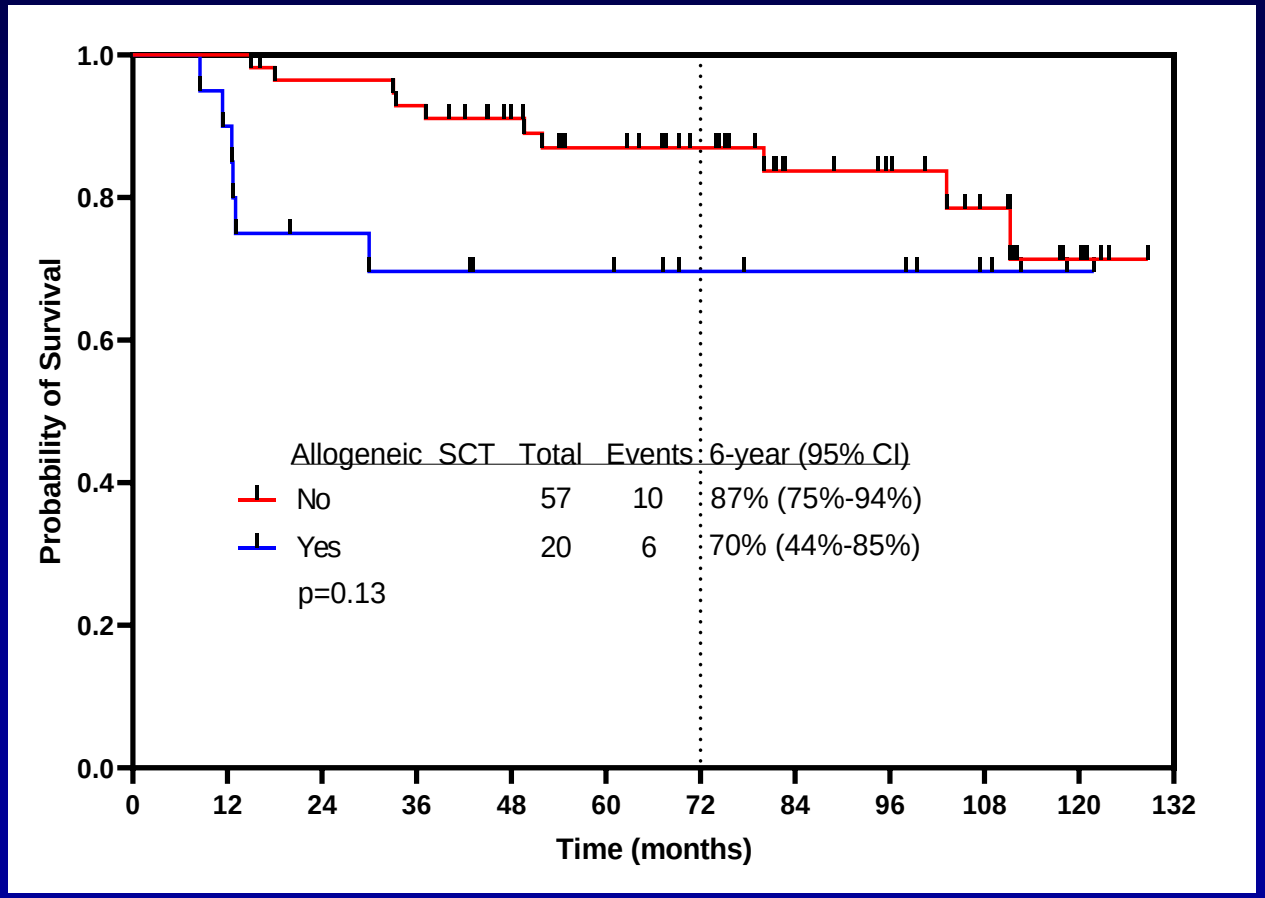
HyperCVAD + Ponatinib in Ph-positive ALL. Long-Term F/U of more than 6 years

- 86 pts Rx; median age 47 yrs (39-61); median FU 80 mos (61-109)
- CR 68/68 (100%); FCM-MRD negative 85/86 (99%); CMR 84%; 6-yr OS 75%, EFS 65%; 20 pts (23%) ASCT

OS



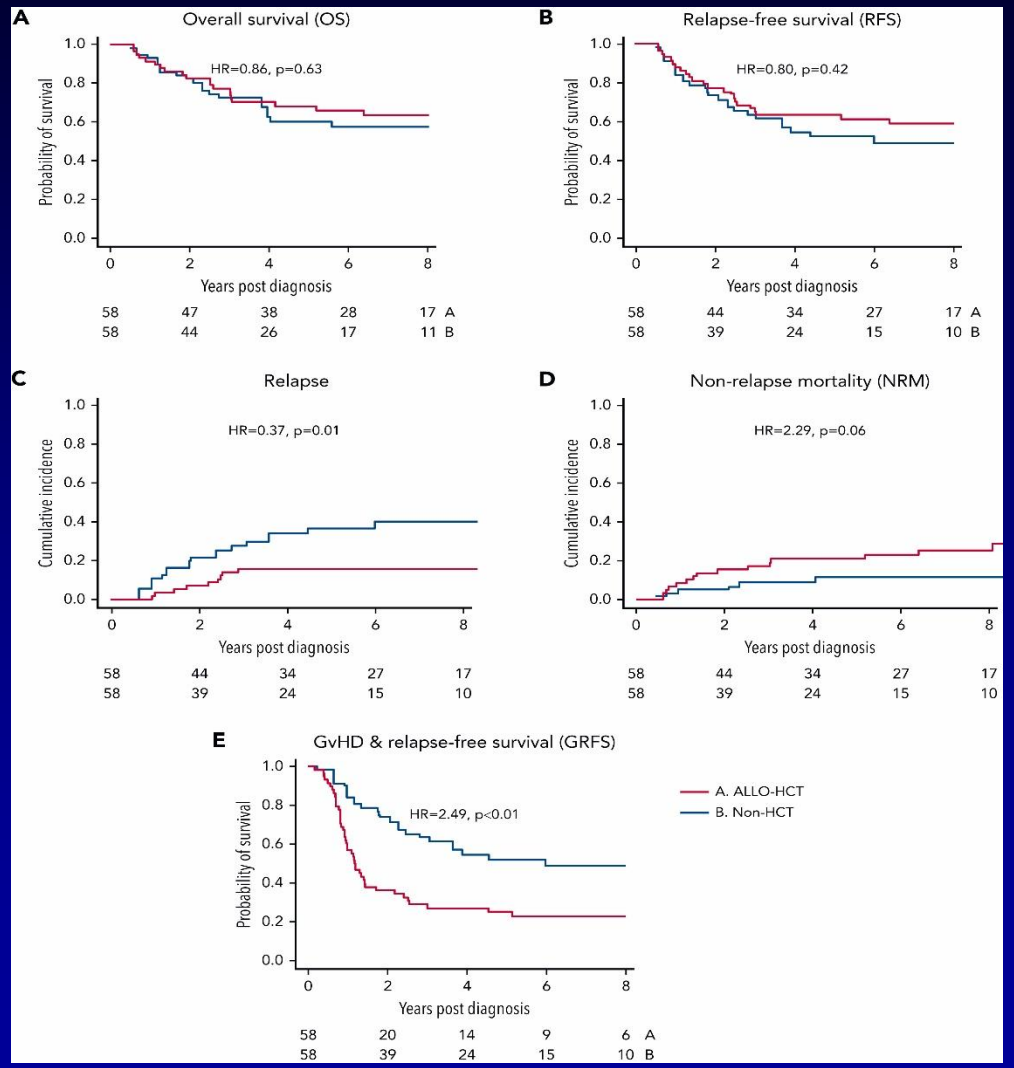
6-mos-landmark



Kantarjian. Am J Hematol. 2023;98(3):493-501

No Benefit of Allogeneic SCT in Patients with Ph+ ALL who Achieve CMR

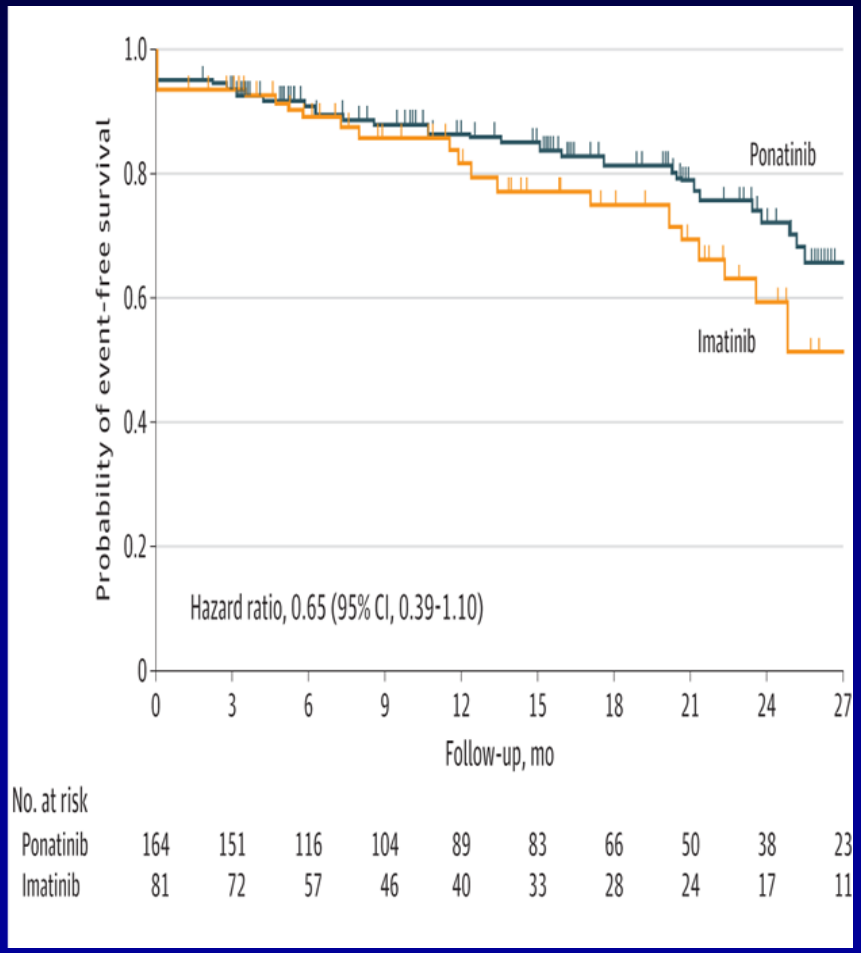
- Propensity score analysis of patients who achieved CMR within 3 months
- Allogeneic SCT → lower risk of relapse but higher NRM
- No impact of SCT on OS or RFS

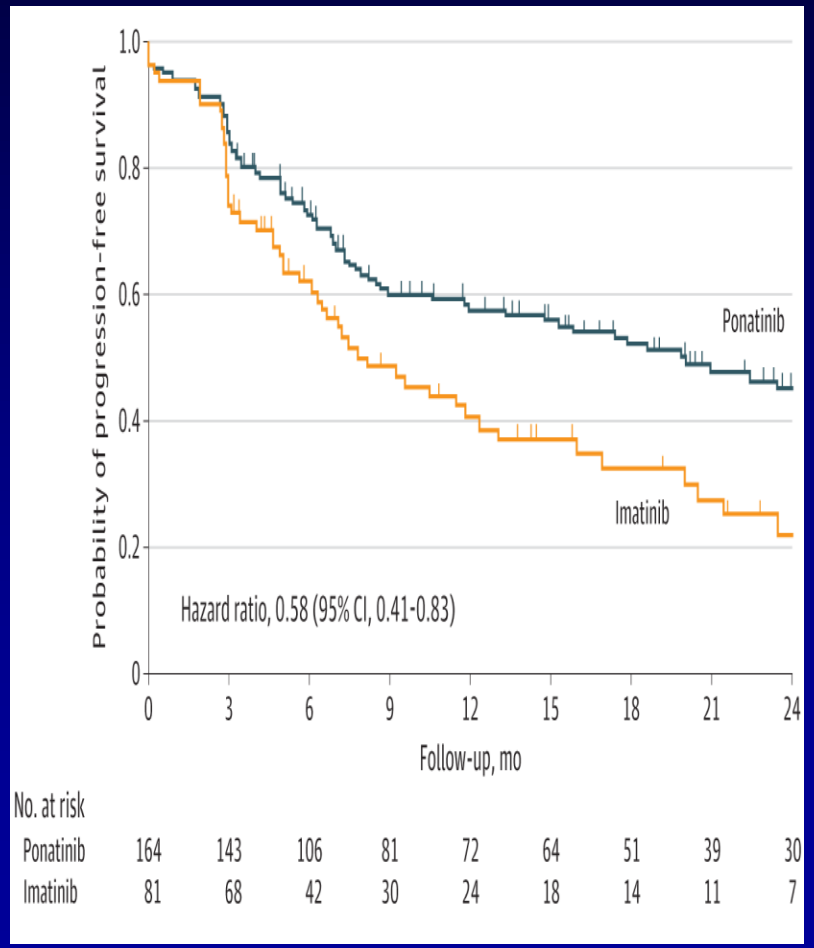


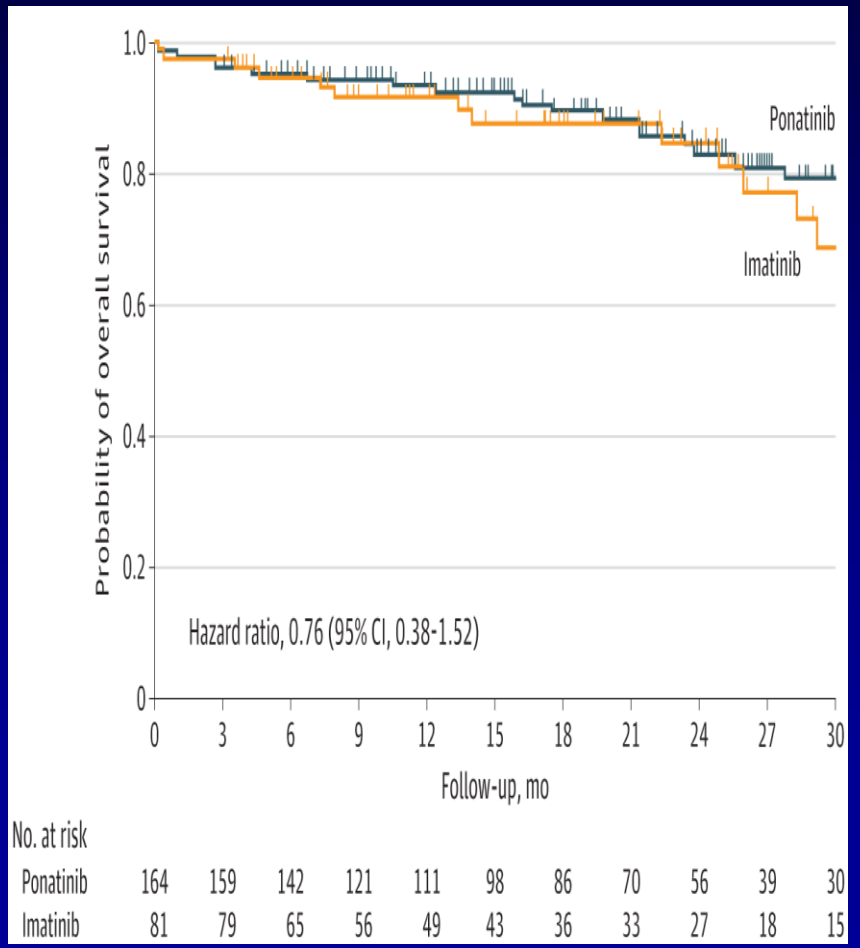
Ghobadi A et al. *Blood* 2022;140(20):2101-12

Ponatinib vs Imatinib in Newly Dx Ph+ALL. PhALLCON Phase 3 Trial

- 245 pts randomized (2:1) to ponatinib 30 mg/D (n=164) or imatinib (n=81) , both with VCR-Dex for 90 days; then continuation of TKIs and chemoRx.
- Primary endpoint MR4 CR at 90 days: 34.4% vs 16.7% (p = 0.002)



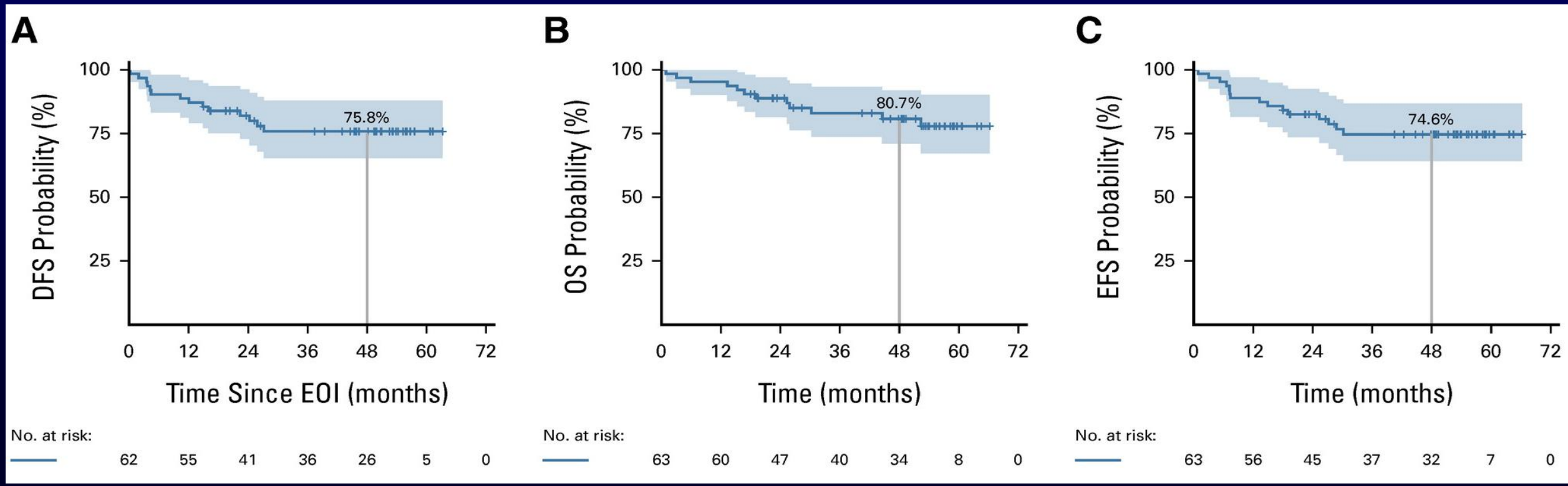




Jabbour. JAMA 331: 1814-1823; 2024

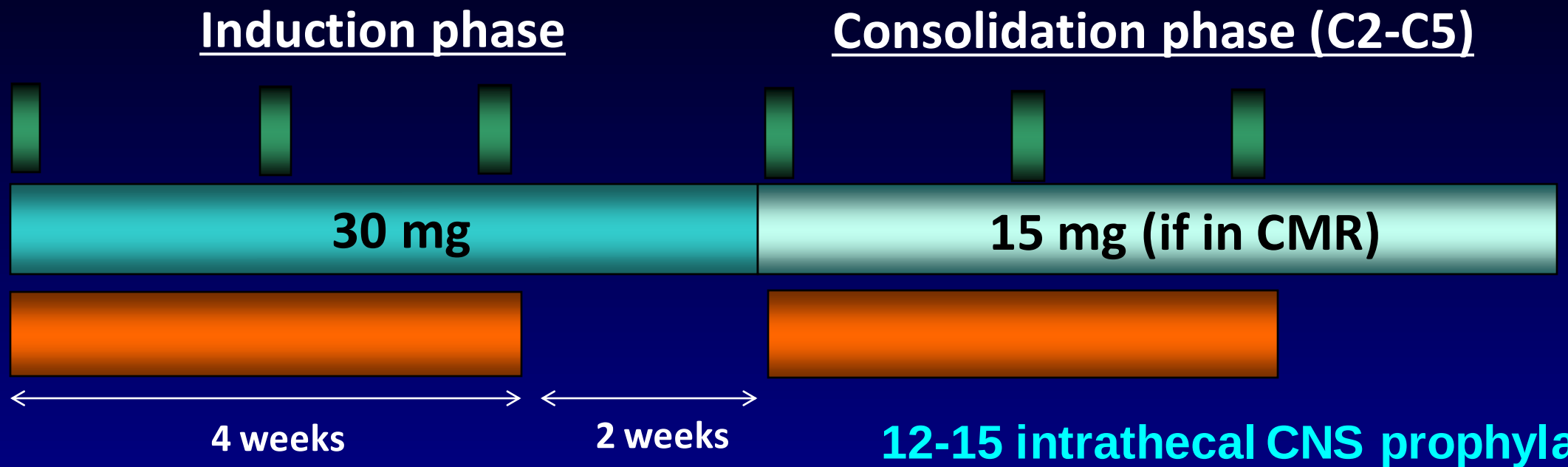
Dasatinib + Blinatumomab (D-ALBA) in Newly- Dx Ph+ ALL– Final Update

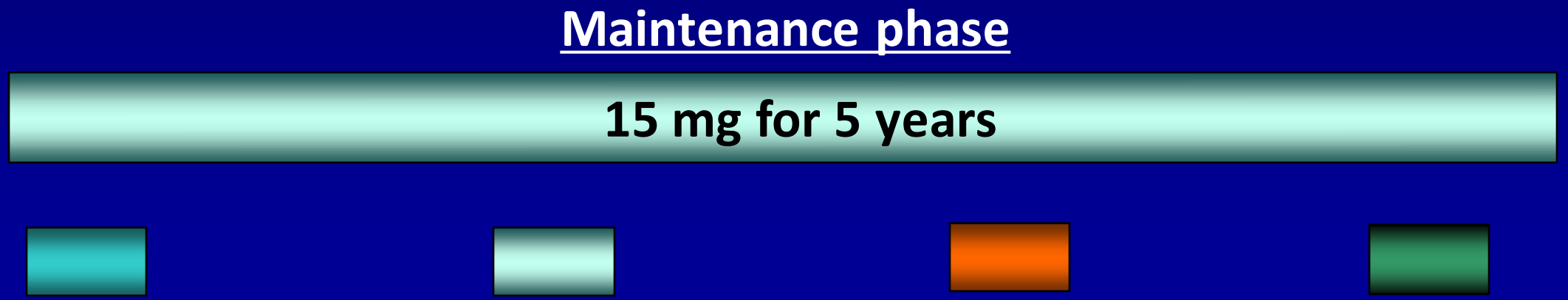
- 63 pts Rx; median age 54 yrs (24-82). Median FU 53 mos
- Molecular response (CMR/PNQ) 27/29 non-SCT = 93%
- 30/63 (48%) allo SCT– 6 allo SCT in CR2
- 9 relapses: 4 hematologic, 4 CNS, 1 nodal. 6 deaths
- 4-yr OS 81%, DFS 76%, EFS 75%
- Outcome better if MR (EOI): DFS 100% vs 69% (p=.016); worse if *IKZF1*+: DFS 82% vs 45% (p=.026)



Foa. J Clin Oncol. 2024;42(8):881-885

Ponatinib + Blinatumomab in Ph+ ALL. Regimen





Jabbour. Lancet Haematology 10:e24-e34;2023 Kantarjian JCO; July 19; 2024

Ponatinib and Blinatumomab in Newly Dx Ph-Positive ALL

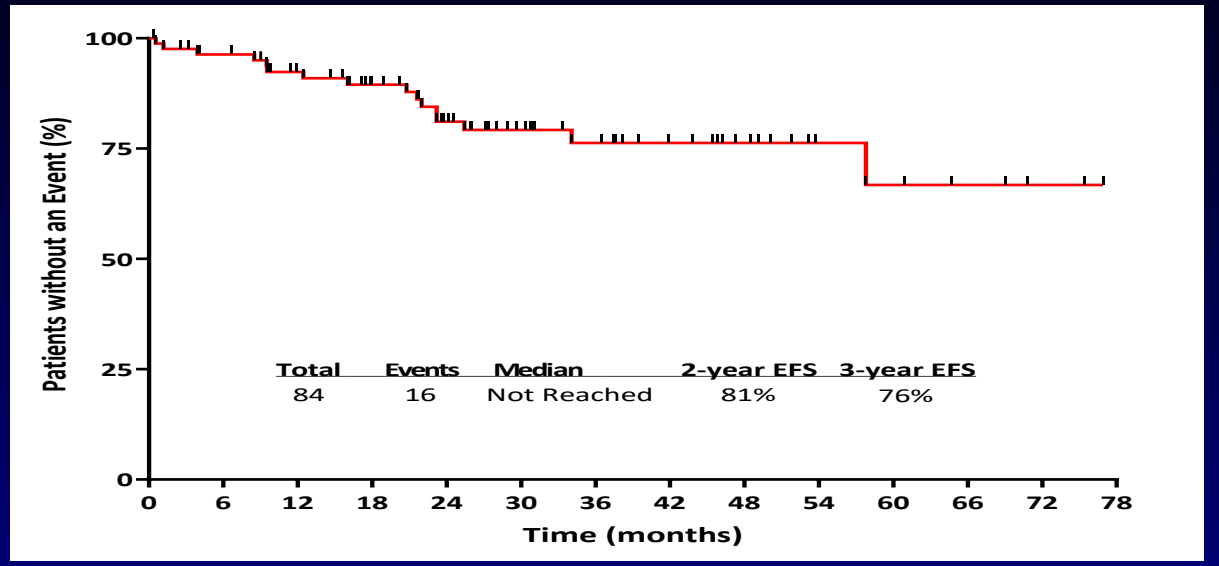
- 84 pts Rx with simultaneous ponatinib 30-15mg/D and blinatumomab x 5 courses. 12-15 ITs. Median FU 29 mos
- Only 2 pt had SCT (2%)
- Median F/U 29 months. 3-yr EFS 76%, OS 89%
- 10 relapses (9 p190): 5 CNS, 4 BM,1 CRLF2+ (Ph-). 3-yr cumulative relapse 12%

Parameter	%
CR-CRi	97
% CMR	78
% NGS-MRD negative	95
% 3-yr OS	89

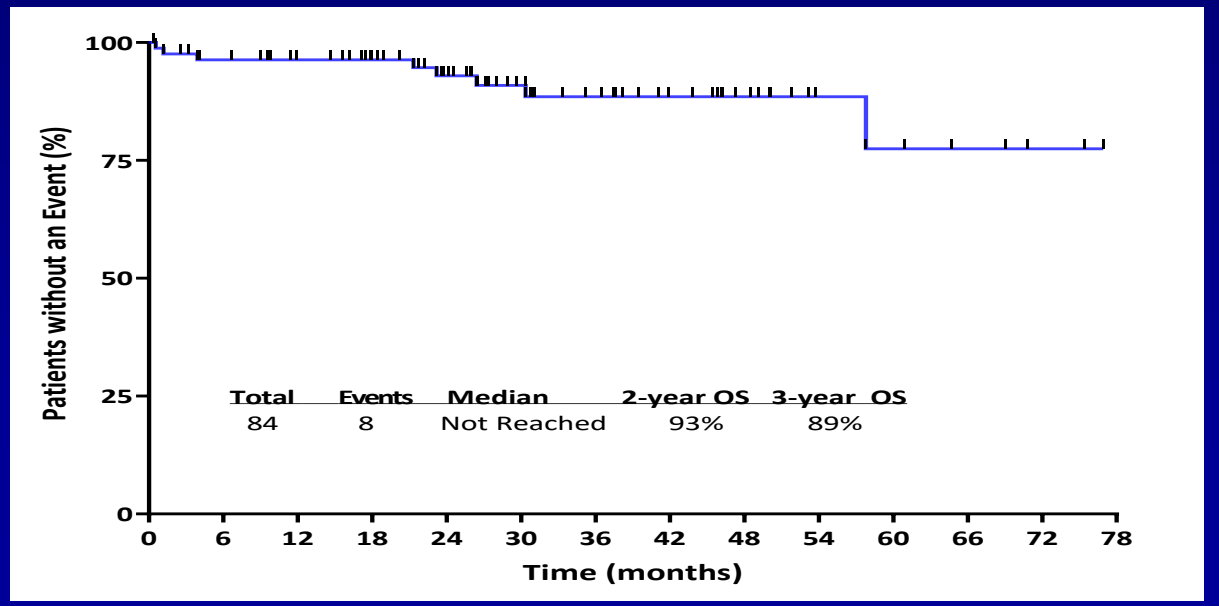
Jabbour. Lancet Haematol. 2023;10(1):e24-e34

Kantarjian JCO. 2024;42(36):4246-4251

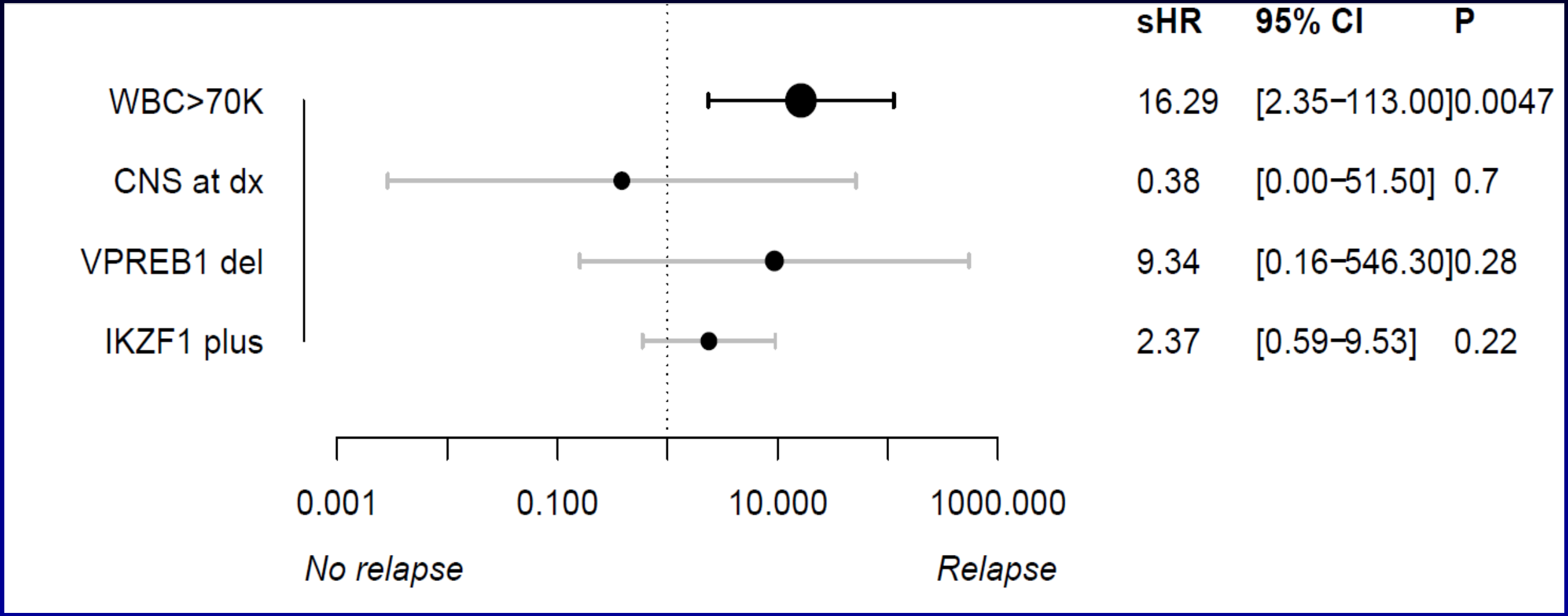
Event-Free Survival



Overall Survival



Ponatinib + Blinatumomab in Ph+ ALL. MVA for Relapse Risk



MVA: WBC >70K at Dx was only factor independently predictive of relapse

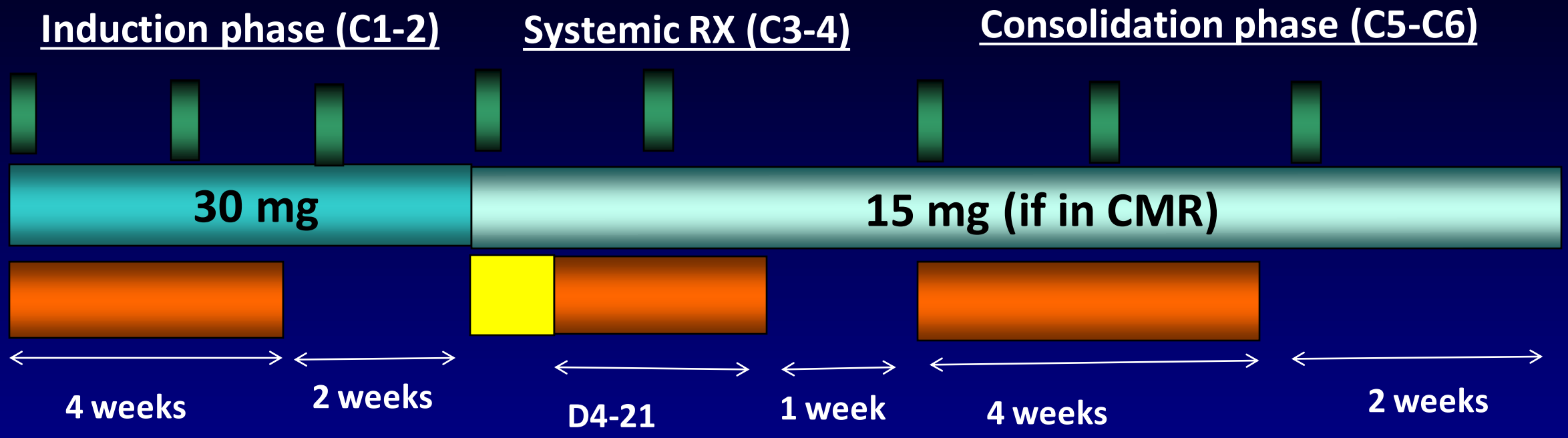
Short. Blood 144: abstr 837; 2024

Ponatinib vs Dasatinib + Blinatumomab in Ph+ ALL

Parameter	Pona+Blina (n=84; 5 blina)	Dasa+Blina (n=63; 2+blina)	Dasa+ Blina (n=24; 3 blina)	Pona+ Blina (n=133; 2-5 blina)
Median age (yrs)	50	54	73	57
% PCR neg % NGS-clonseq neg	78 95	93 (+PNQ)	63	73
% 4-yr OS	89	82	75	18-mo OS 92%
% allo SCT	2	48	5	12
Relapses (CNS)	10 (5)	9 (4)	8 [3 T315I]	4 (1)

Kantarjian. JCO; July 19; 2024. Foa. JCO online, December 23; 2023. Advani. Blood 142: Abst 1499; 2023 Chiaretti. Blood 144: abst 835; 2024

Ponatinib + Blinatumomab in Ph-positive ALL. Regimen (WBC≥70K)



Maintenance phase

15 mg for 5 years

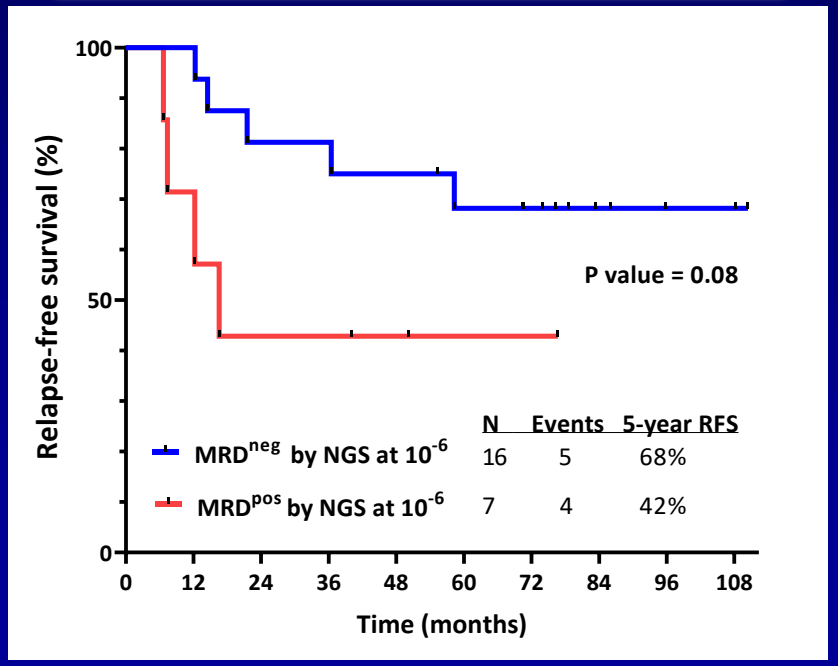
Ponatinib 30 mg | Ponatinib 15 mg | HDAC/MTX | Blinatumomab | IT MTX / Ara-C x 15

NGS MRD in Ph+ ALL.

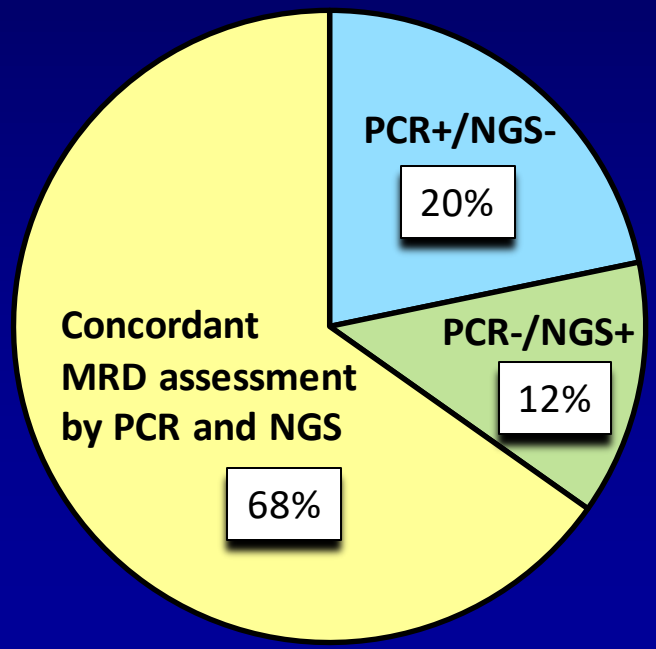
Adults with Ph+ ALL undergoing frontline therapy
(n=44 in retrospective cohort)
(n=74 in validation cohort)

→ **Comparison of MRD assessment by RT-PCR for *BCR::ABL1* and next-generation sequencing for IG/TR (sensitivity 10^{-6})**

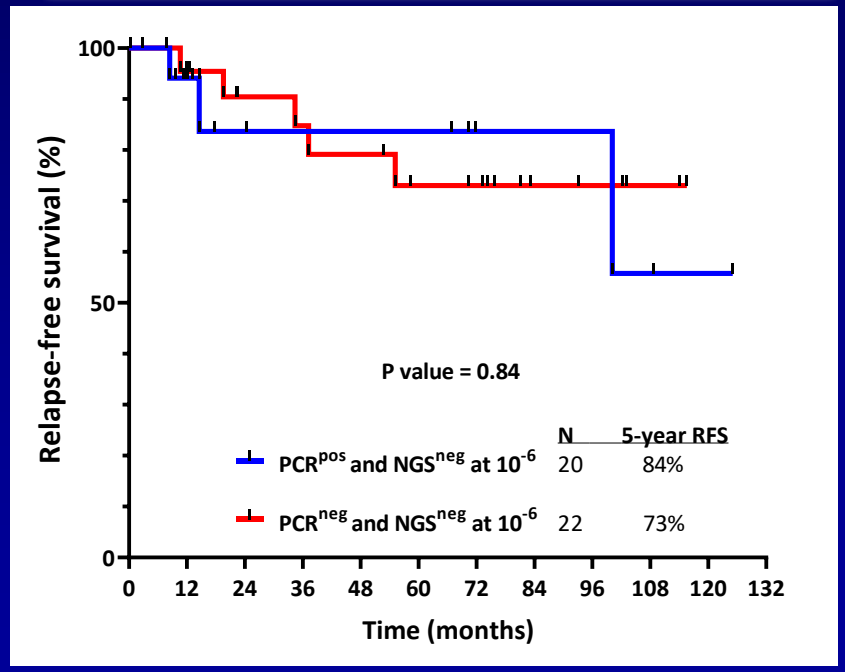
NGS MRD in first 6 months of treatment is prognostic for RFS and OS



Discordance between MRD assessment by PCR and NGS is relatively common



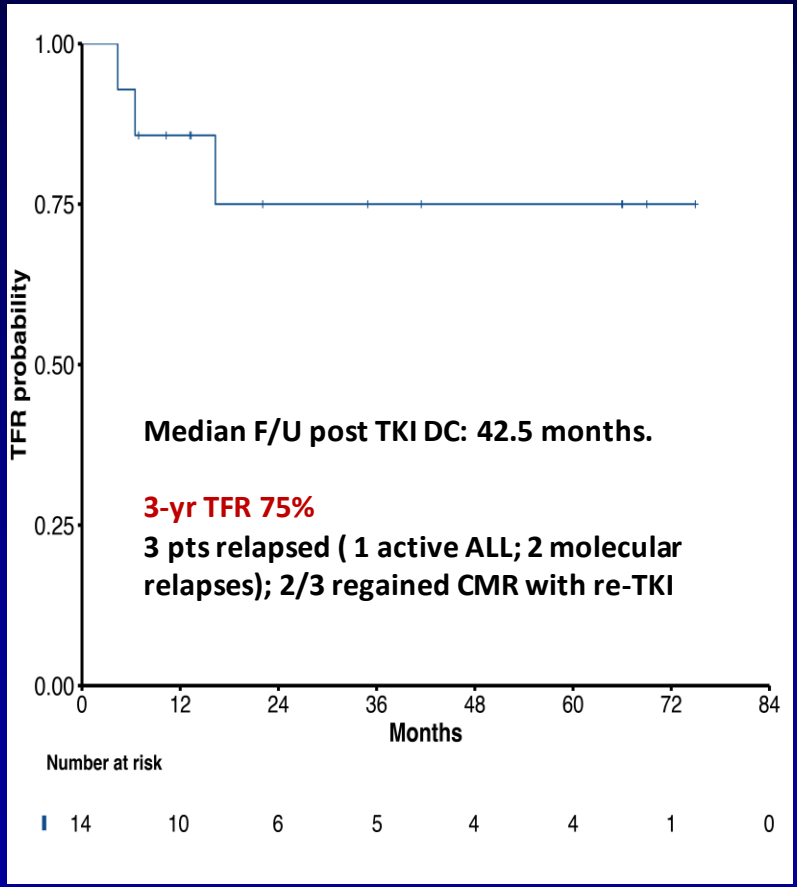
RT-PCR for *BCR::ABL1* is not prognostic in patients who achieve NGS MRD negativity

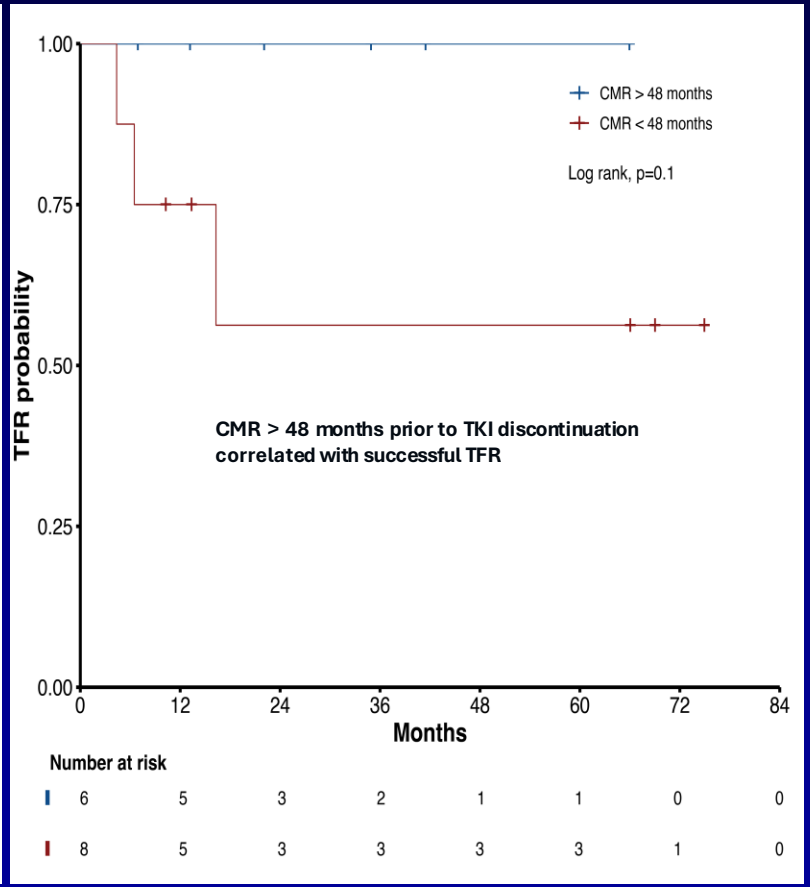


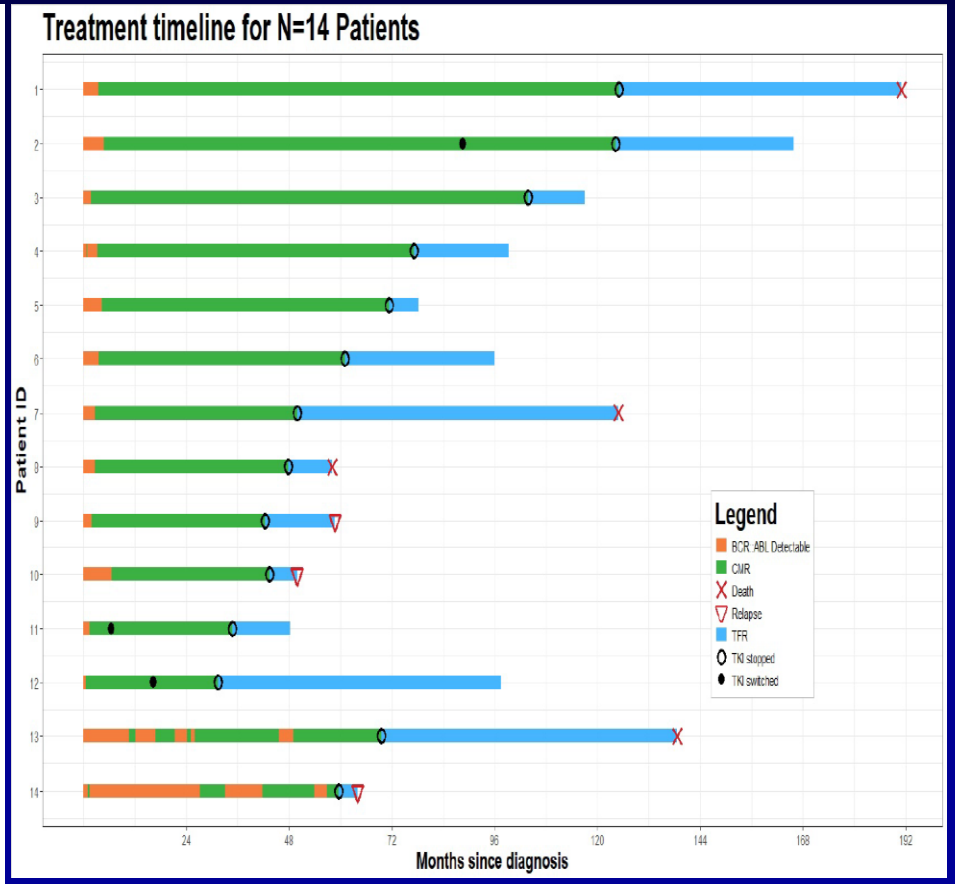
Short NJ et al. *Am J Hematol* 2023;98(8):1196-1203.

TKI DC/TFR in Ph+ ALL Without Allo HSCT

- 14/238 pts (6%); median age 61 yrs; Median time on TKI 60 mos (31-125); median time in CMR 46 mos (2.7-121)
- Rx HCVAD + added TKI: Ima 2, dasa 6, pona 4, blina-pona 2
- Reason for TKI DC: pleural effusions 4, AOE/VOE 4, pulmomary hypertension 2, pancreatitis 1, cytopenia 1, other 2
- 11pts (79%) remained in TFR. None of 8 in CMR 4+yrs prior to TKI DC had relapse

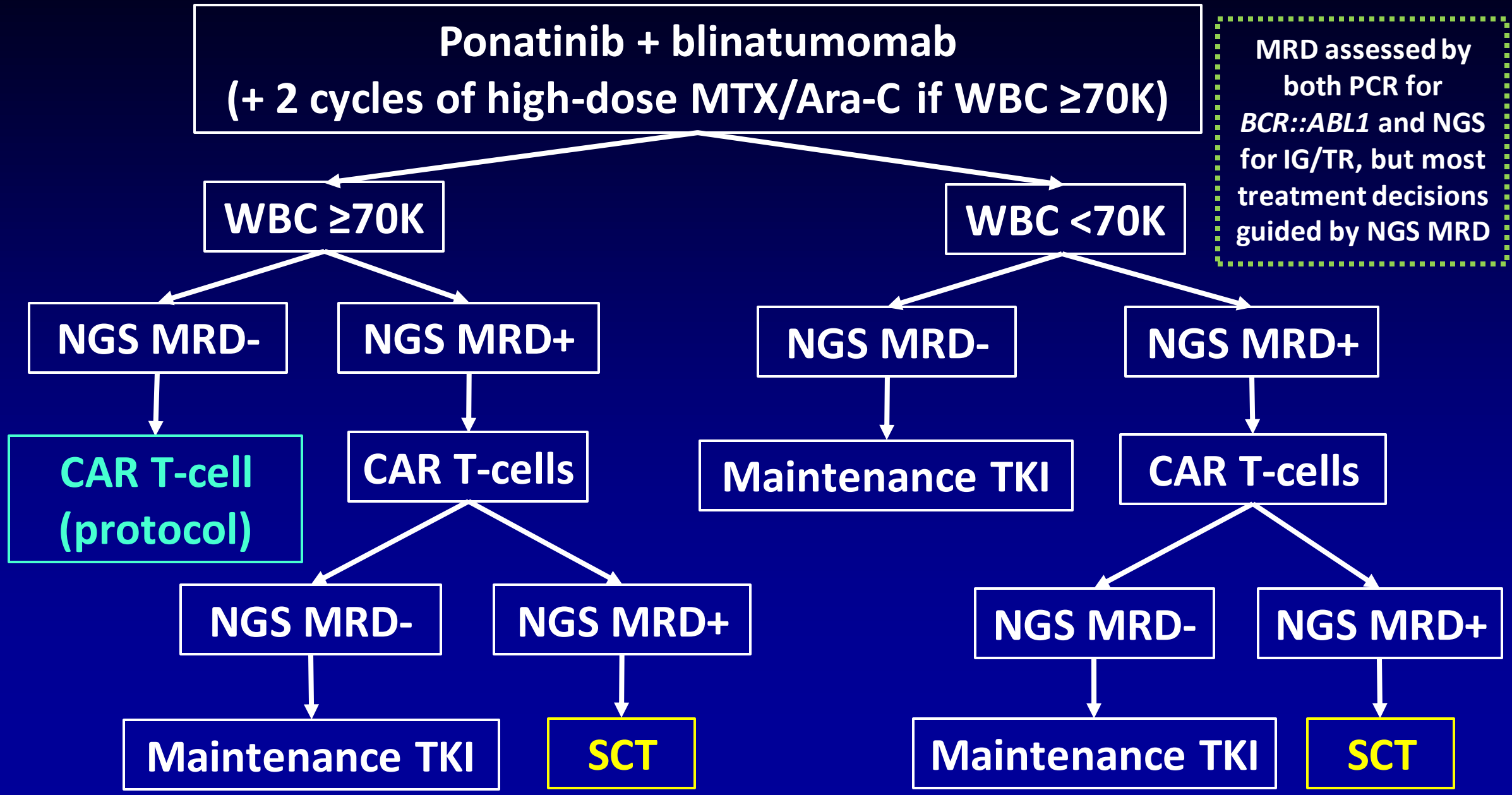






Kugler. Cancer. 2025;131(5):e35773

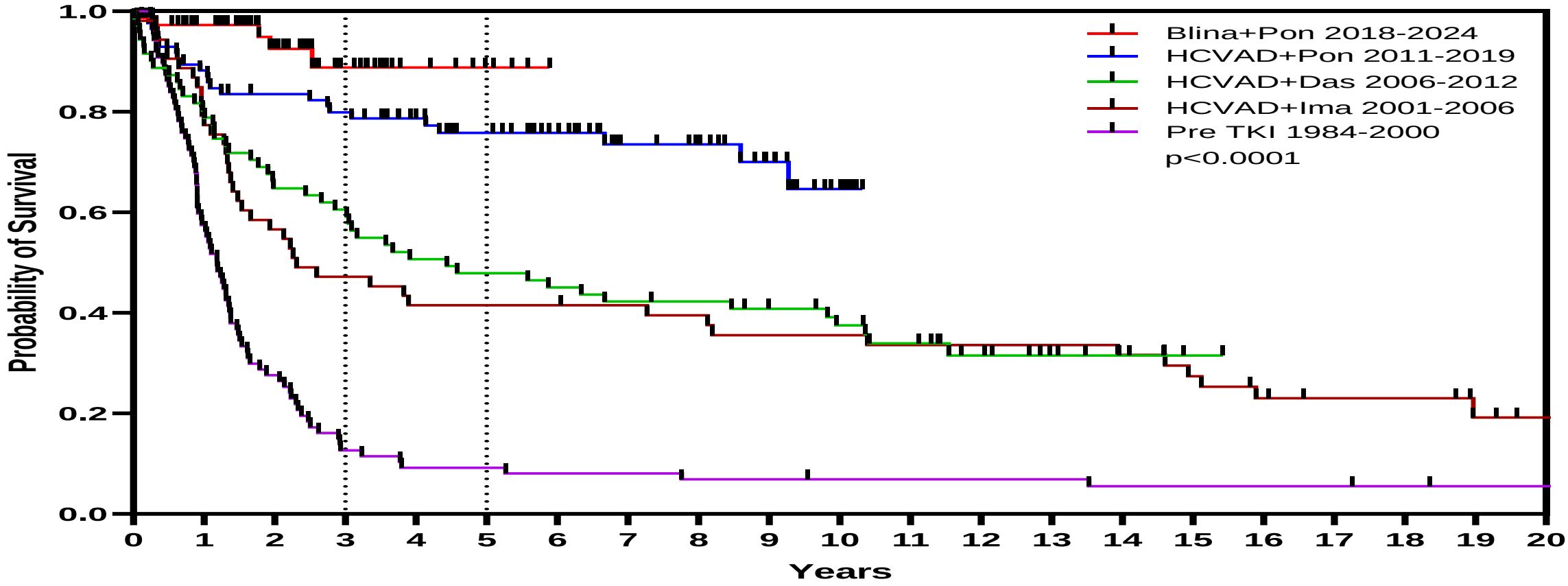
MDACC Research Algorithm for Ph+ ALL



In Conclusion…

- Do we need allo-SCT? --
  - Identify patients who can be cured without allo-SCT; e.g. **3-mos CMR, MRD negative by NGS** (lack of *IKZF1*^{plus})
- **Ponatinib** best TKI-- 3 mos-CMR 86%; 6-year OS rate 76% (HCVAD-ponatinib)
  - **Ponatinib > Imatinib:** Phase III PhaLLCON
- How much chemoRx– Risk of CNS relapses
  - **15 IT** vs HDAC/MTX?
  - Consider CAR T-cell?
- New drugs to be explored--
  - **SQ Blina, asciminib, olverembatinib**
- Duration of TKI maintenance---TFR
  - At least 4-5 years of NRD-negativity by NGS
  - In pts without HR features (High WBC and/or *IKZF1*^{plus})

ALL. Survival by Decade (MDACC 1984-2024)



	Total	Events	3yr OS	5yr OS	Median
Blina+Pon 2018-2024	76	5	89%	89%	Not reached
HCVAD+Pon 2011-2019	85	23	80%	76%	Not reached
HCVAD+Das 2006-2012	71	47	61%	48%	53 mos
HCVAD+Ima 2001-2006	53	41	47%	42%	28 mos
Pre TKI 1984-2000	87	83	13%	9%	14 mos

p<0.0001

Thank You

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