



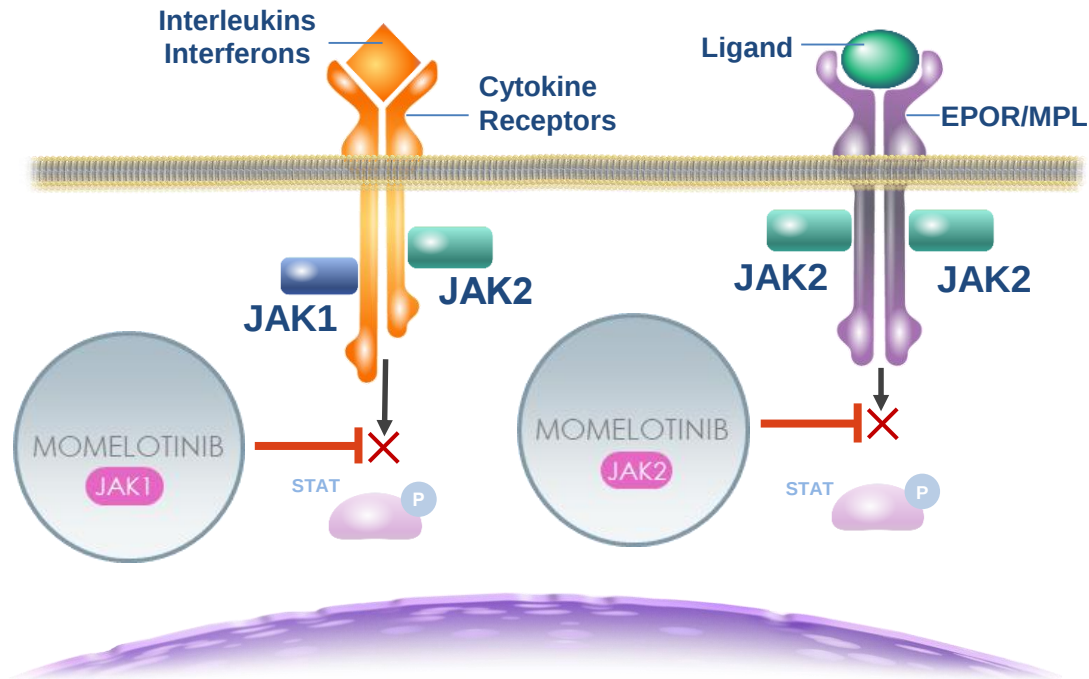
American Society of Hematology
Helping hematologists conquer blood diseases worldwide

Updated Results from the Momentum Phase 3 Study of Momelotinib (MMB) Versus Danazol (DAN) in Symptomatic and Anemic Myelofibrosis (MF) Patients Previously Treated with a JAK Inhibitor

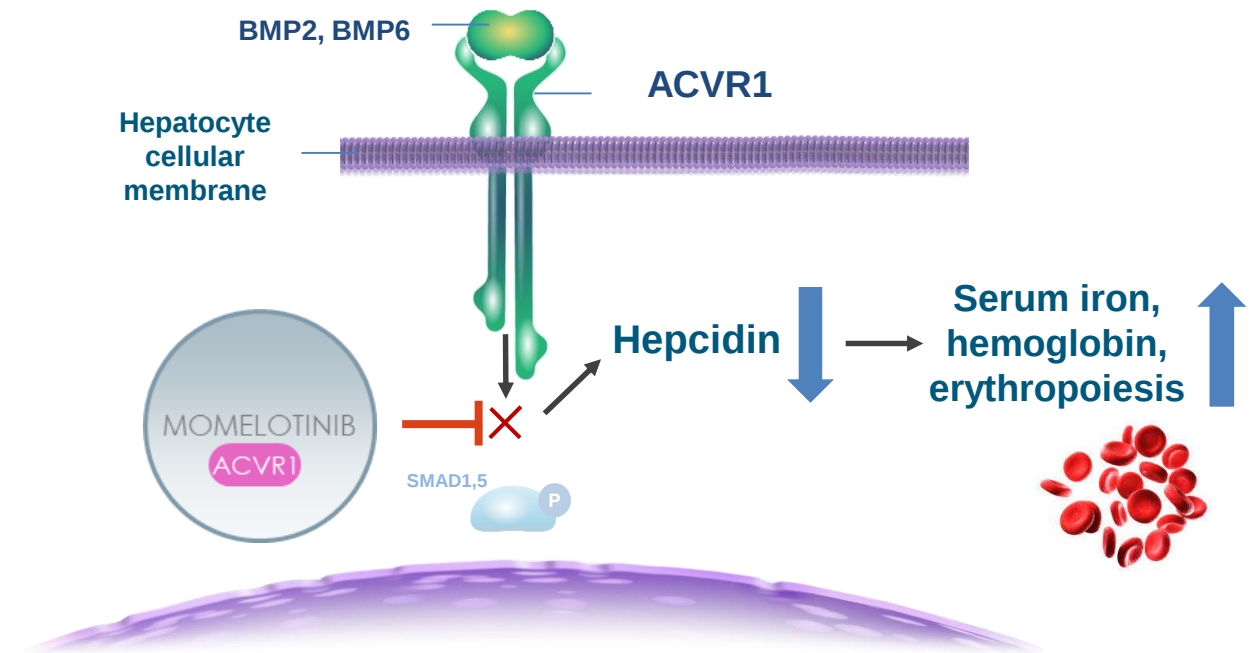
Aaron T. Gerds, MD, MS,¹ Ruben A. Mesa, MD, FACP,² Alessandro M. Vannucchi, MD,³ Haifa Kathrin Al-Ali, MD,⁴ David Lavie, MD,⁵
Andrew Kuykendall, MD,⁶ Sebastian Grosicki, MD, PhD,⁷ Alessandra Iurlo, MD, PhD,⁸ Yeow Tee Goh,⁹ Mihaela Lazaroiu, MD¹⁰
Miklos Egyed, MD, PhD,¹¹ Maria Laura Fox, MD,¹² Donal P. McLornan, MD, PhD,¹³ Andrew Perkins, MBBS, PhD, FRACP, FRCPA,¹⁴
Sung-Soo Yoon, MD, PhD,¹⁵ Vikas Gupta, MD, FRCP, FRCPath,¹⁶ Jean-Jacques Kiladjian, MD, PhD,¹⁷ Rafe Donahue, PhD,¹⁸ Jun Kawashima, MD,¹⁸
Srdan Verstovsek, MD, PhD¹⁹

¹Cleveland Clinic Taussig Cancer Center, Cleveland, OH, USA; ²UT Health San Antonio MD Anderson Cancer Center, San Antonio, TX, USA; ³University of Florence, Firenze, Italy; ⁴University Hospital of Halle (Saale), Halle, Germany; ⁵Hadassah University Medical Center, Jerusalem, Israel; ⁶Moffitt Cancer Center, Tampa, FL, USA; ⁷Medical University of Silesia, Katowice, Poland; ⁸Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan, Italy; ⁹Singapore General Hospital, Singapore; ¹⁰Policlinica de Diagnostic Rapid, Brasov, Romania; ¹¹Somogy County Kaposi Mór General Hospital, Kaposvár, Hungary; ¹²Vall d'Hebron University Hospital, Barcelona, Spain; ¹³Guy's and St Thomas' NHS Foundation Trust, London, UK; ¹⁴Australian Centre for Blood Diseases and Alfred Hospital, Monash University, Melbourne, VIC, Australia; ¹⁵Seoul National University Hospital, Seoul, South Korea; ¹⁶Princess Margaret Cancer Centre, University of Toronto, Toronto, ON, Canada; ¹⁷Université de Paris, AP-HP, Hôpital Saint-Louis, Centre d'Investigations Cliniques, Paris, France; ¹⁸Sierra Oncology, Inc., San Mateo, CA, USA; ¹⁹The University of Texas MD Anderson Cancer Center, Houston, TX, USA

Momelotinib Inhibits JAK1, JAK2, and ACVR1 to Address MF Symptoms, Spleen, and Anemia



Dysregulated **JAK-STAT** signaling in MF drives overproduction of inflammatory cytokines, **bone marrow fibrosis**, **systemic symptoms**, and clonal proliferation resulting in extramedullary hematopoiesis and **splenomegaly**^{1,2}

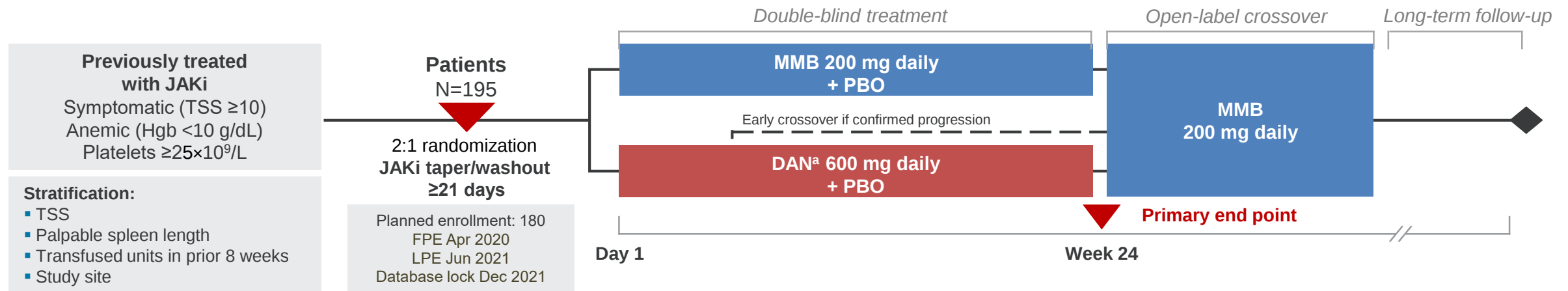


Chronic inflammation also drives hyperactivation of **ACVR1**, elevated **hepcidin**, dysregulated iron metabolism, and **anemia** of MF^{3,4}

ACVR1, activin A receptor type 1; BMP, bone morphogenetic protein; EPOR, erythropoietin receptor; JAK, Janus kinase; MF, myelofibrosis; MPL, myeloproliferative leukemia protein; SMAD1/5, mothers against decapentaplegic homolog 1/5; STAT, signal transducer and activator of transcription.
1. Chifotides HT, et al. *J Hematol Oncol*. 2022;15(1):7. 2. Verstovsek S, et al. *Future Oncol*. 2021;17(12):1449-1458. 3. Asshoff M, et al. *Blood*. 2017;129(13):1823-1830. 4. Oh ST, et al. *Blood Adv*. 2020;4(18):4282-4291.



MOMENTUM Is an Ongoing Phase 3 Study of Mometotinib Versus DAN in Symptomatic, Anemic, JAKi-Experienced Patients



MOMENTUM Topline Results at Week 24: All Primary and Key Secondary End Points Met^{1,2}

	MFSAF TSS ^b response rate (primary end point)	TI response ^c rate	SRR ^d (35% reduction)
MMB (N=130)	32 (24.6%)	40 (30.8%)	30 (23.1%)
DAN (N=65)	6 (9.2%)	13 (20.0%)	2 (3.1%)
	P=.0095 (superior)	1-sided P=.0064 (noninferior)	P=.0006 (superior)

ClinicalTrials.gov: NCT04173494.

^aDanazol was selected as an appropriate comparator given its use to ameliorate anemia in patients with MF.^{3,5} ^bTSS response defined as achieving $\geq 50\%$ reduction in TSS over the 28 days immediately before the end of week 24 compared with baseline. ^cTI response defined as not requiring red blood cell transfusion in the last 12 weeks of the 24-week randomized period, with all Hgb levels during the 12-week interval of ≥ 8 g/dL. ^dSRR defined as achieving a $\geq 25\%$ or $\geq 35\%$ reduction in spleen volume from baseline.

DAN, danazol; FPE, first patient enrolled; Hgb, hemoglobin; JAKi, Janus kinase inhibitor; LPE, last patient enrolled; MF, myelofibrosis; MFSAF, Myelofibrosis Symptom Assessment Form; MMB, momelotinib; PBO, placebo; SRR, splenic response rate; TI, transfusion independence; TSS, total symptom score.
1. Mesa R, et al. Abstract presented at: 2022 ASCO Annual Meeting; June 3-6, 2022; Chicago, IL and Virtual. Abstract 7002. 2. Verstovsek S, et al. Abstract presented at: 2022 EHA Congress; June 9-12, 2022; Vienna, Austria and Virtual. Abstract S195. 3. Chifotides HT, et al. *J Hematol. Oncol.* 2022;15(1):7. 4. Naymagon L, et al. *Hemasphere.* 2017;1(1):e1. 5. Vannucchi AM, et al. *Ann Oncol.* 2015;26(suppl 5):v85-v99.



American Society of Hematology

MOMENTUM Was Conducted in Symptomatic Anemic, Post-RUX Patients With MF and a Heavy Transfusion Burden

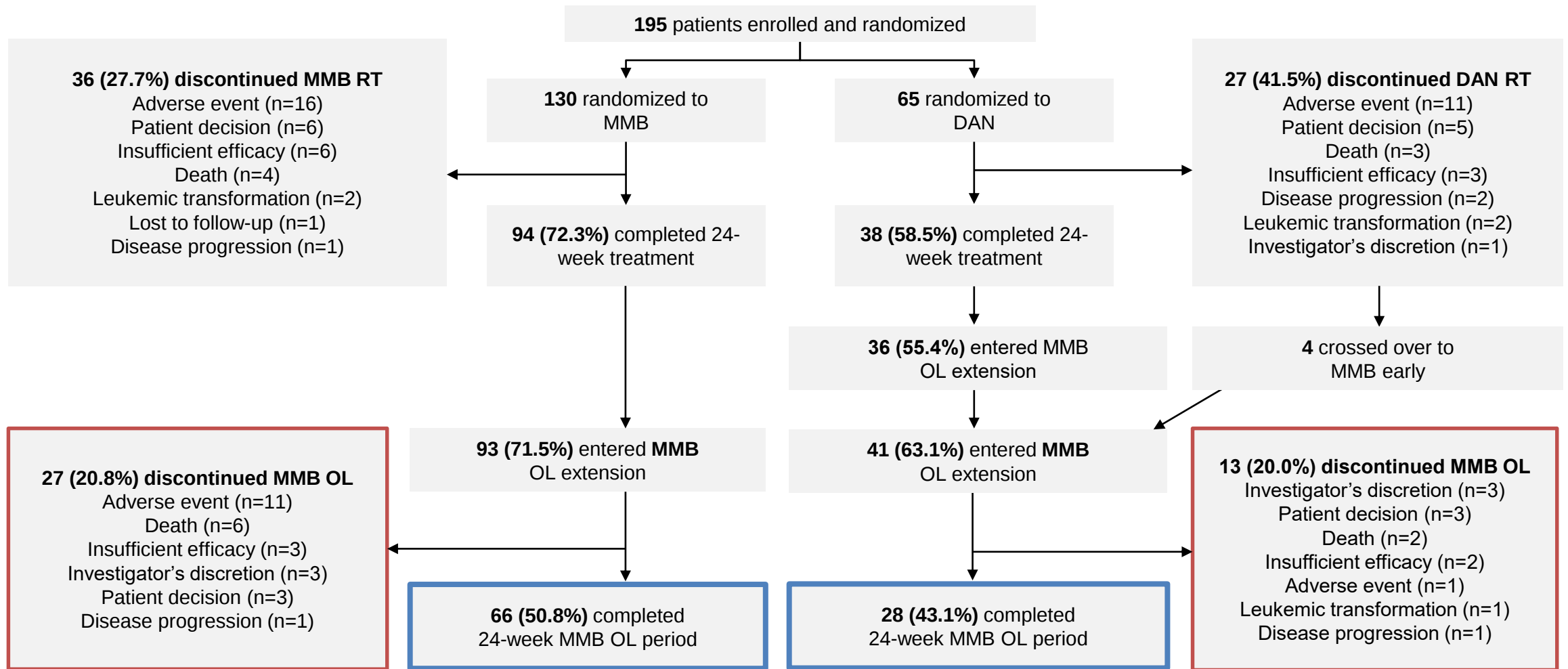
Baseline characteristics	MMB (N=130)	DAN (N=65)
Mean age, y	69.85	71.46
Male, %	60.8	67.7
PMF/PPV-MF/PET-MF, %	60.0/20.8/19.2	70.8/16.9/12.3
DIPSS Int-1/Int-2/High, %	5.4/55.4/38.5	4.6/61.5/29.2
Mean prior JAKi therapy, y	2.7	2.4
Mean Hgb, g/dL	8.1	7.9
Hgb <8 g/dL, %	47.7	49.2
TI, ^a %	13.1	15.4
TR, ^b %	38.5	32.3
TD, ^c %	48.5	52.3
Mean platelets, ×10 ⁹ /L	151.7	130.7

^aTI defined as not requiring RBC transfusion for ≥12 weeks, with Hgb levels ≥8 g/dL. ^bTR defined as patients who required transfusions but did not meet the criteria for TD. ^cTD defined as requiring RBC transfusion ≥4 units in the 8 weeks before randomization.

DAN, danazol; DIPSS, Dynamic International Prognostic Scoring System; Hgb, hemoglobin; Int, intermediate; JAKi, Janus kinase inhibitor; MF, myelofibrosis; MMB, momelotinib; PET, post-essential thrombocythemia; PMF, primary myelofibrosis; PPV, post-polycythemia vera; RBC, red blood cell; RUX, ruxolitinib; TD, transfusion dependence; TI, transfusion independence; TR, transfusion-requiring.



Patient Disposition: Data Cutoff May 17, 2022

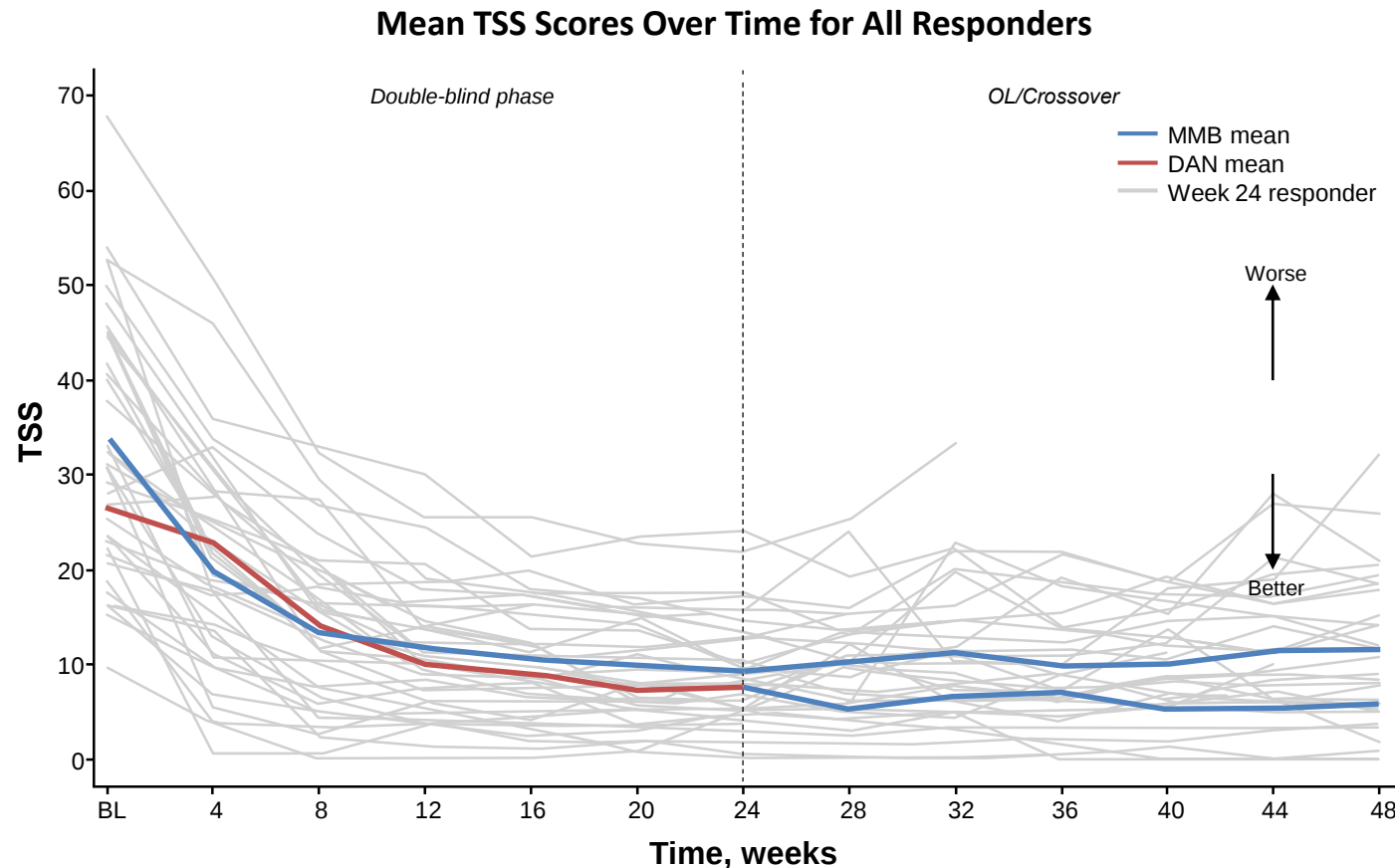


DAN, danazol; MMB, momelotinib; OL, open-label; RT, randomized treatment.



American Society of Hematology

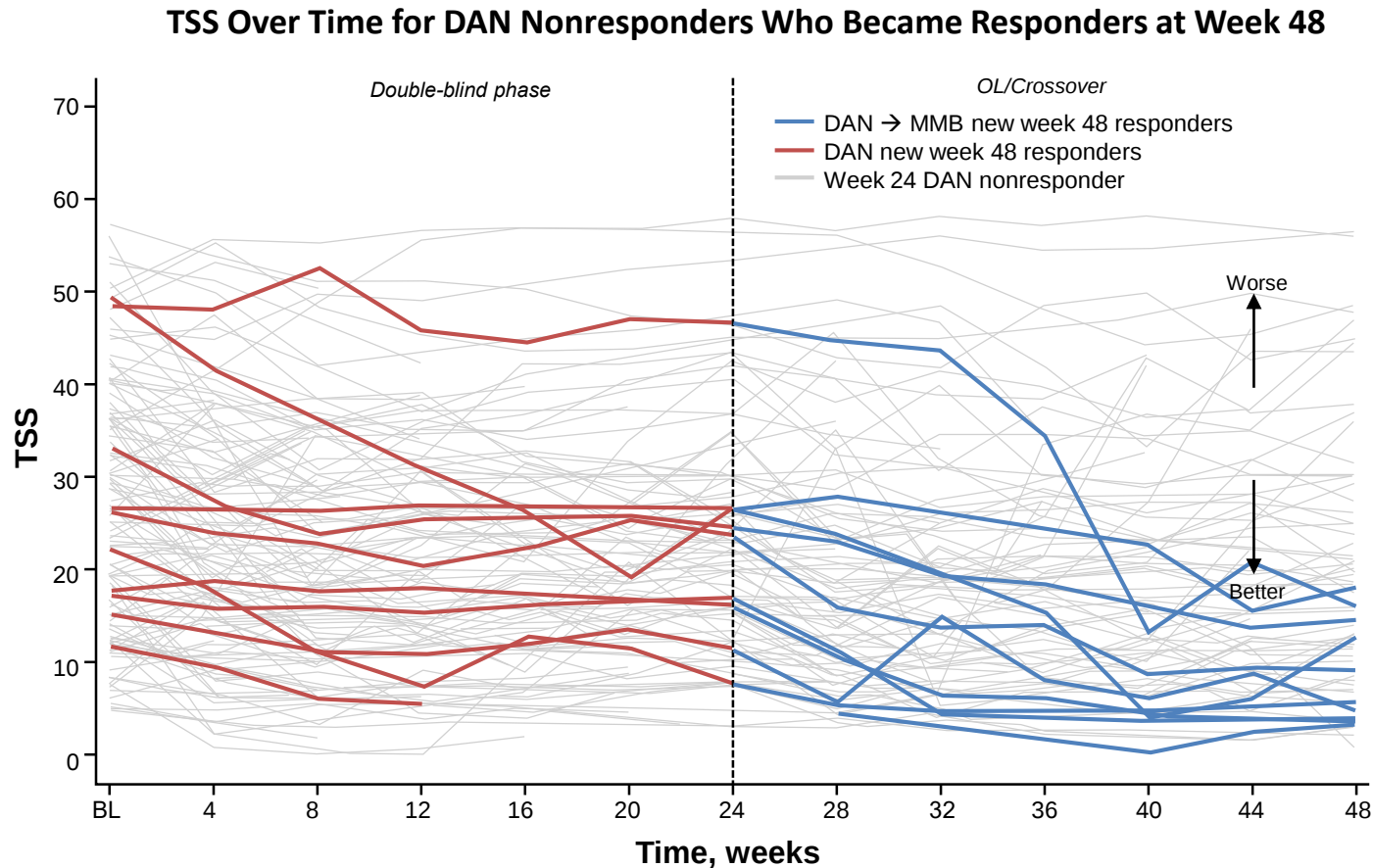
Week 24 Symptom Responses^a Were Sustained Through Week 48



- Week 24 TSS response was 25% in the MMB group and 9% in the DAN group
- Week 24 TSS response was maintained in 31 of 32 (97%) MMB→MMB and 6 of 6 (100%) DAN→MMB patients

^aDefined as the proportion of patients who achieve $\geq 50\%$ reduction in TSS over the 28 days immediately before the end of week 24 compared with baseline.
DAN, danazol; MMB, momelotinib; OL, open-label; TSS, total symptom score.

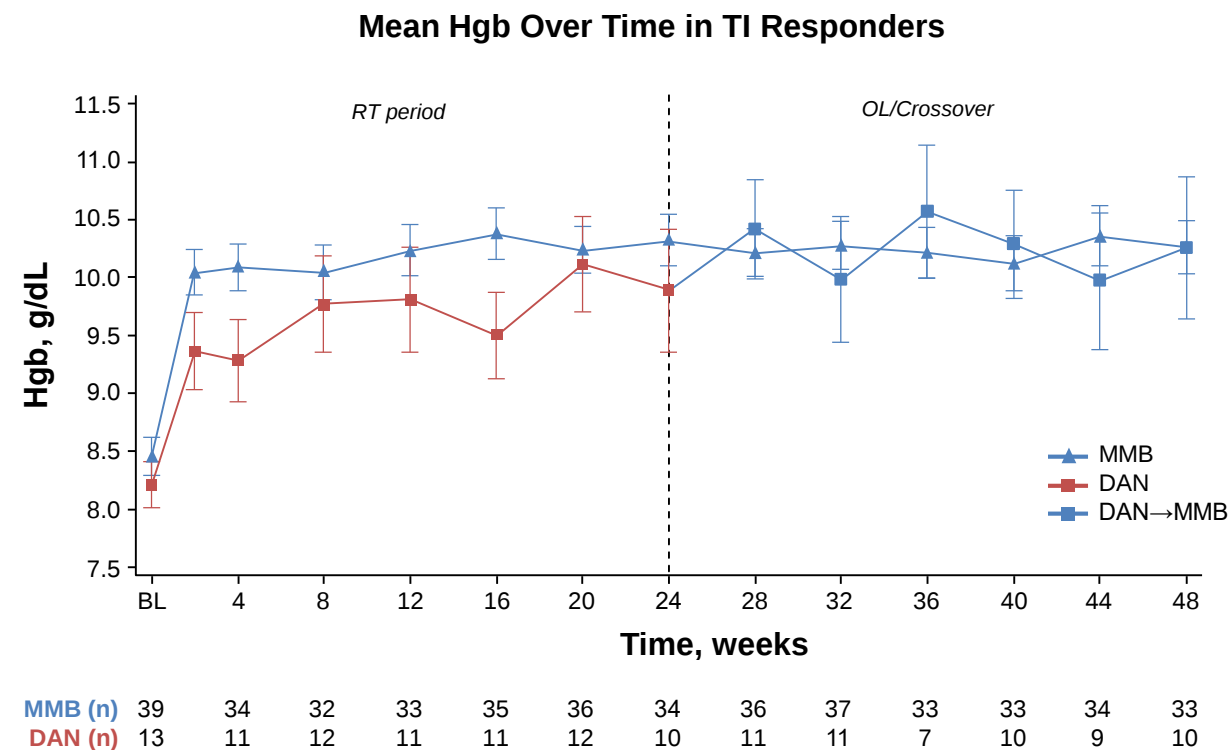
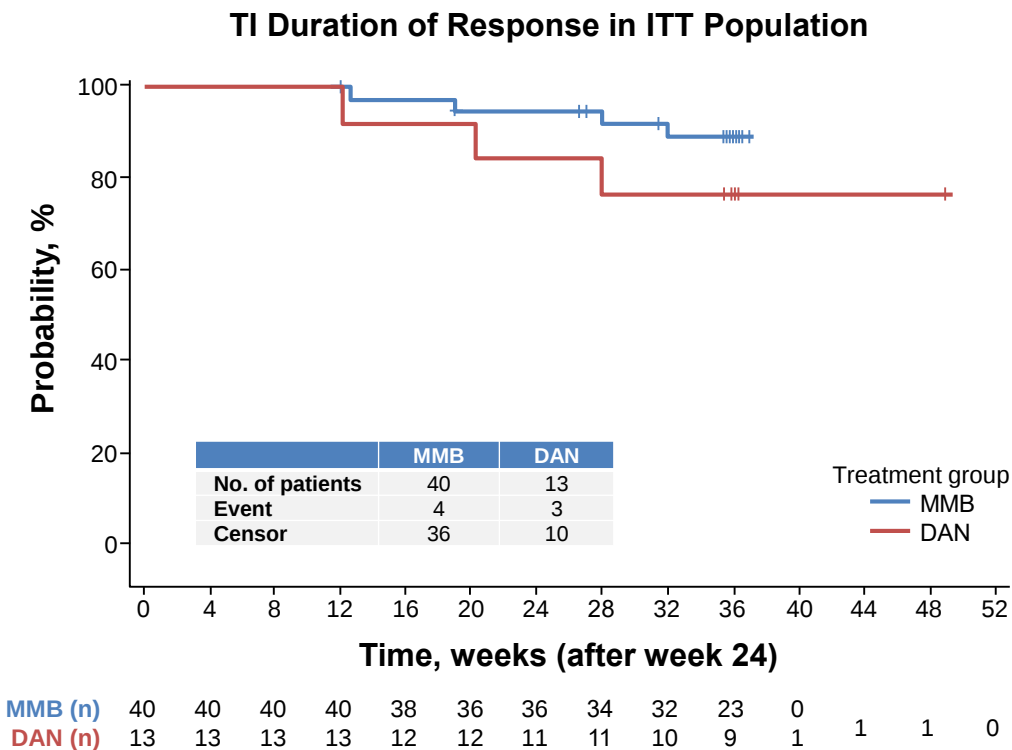
New Week 48 TSS Responses Were Observed for Week 24 Danazol Nonresponders^a



- 10 of 35 (29%) DAN → MMB week 24 TSS nonresponders were new responders at week 48
- 12 of 61 (20%) MMB → MMB week 24 TSS nonresponders were also new responders at week 48 (not shown)

^aDefined as the proportion of patients who achieve <50% reduction in TSS over the 28 days immediately before the end of week 24 compared with baseline.
DAN, danazol; MMB, momelotinib; OL, open-label; TSS, total symptom score.

Week 24 TI Responses^a Were Sustained Through Week 48



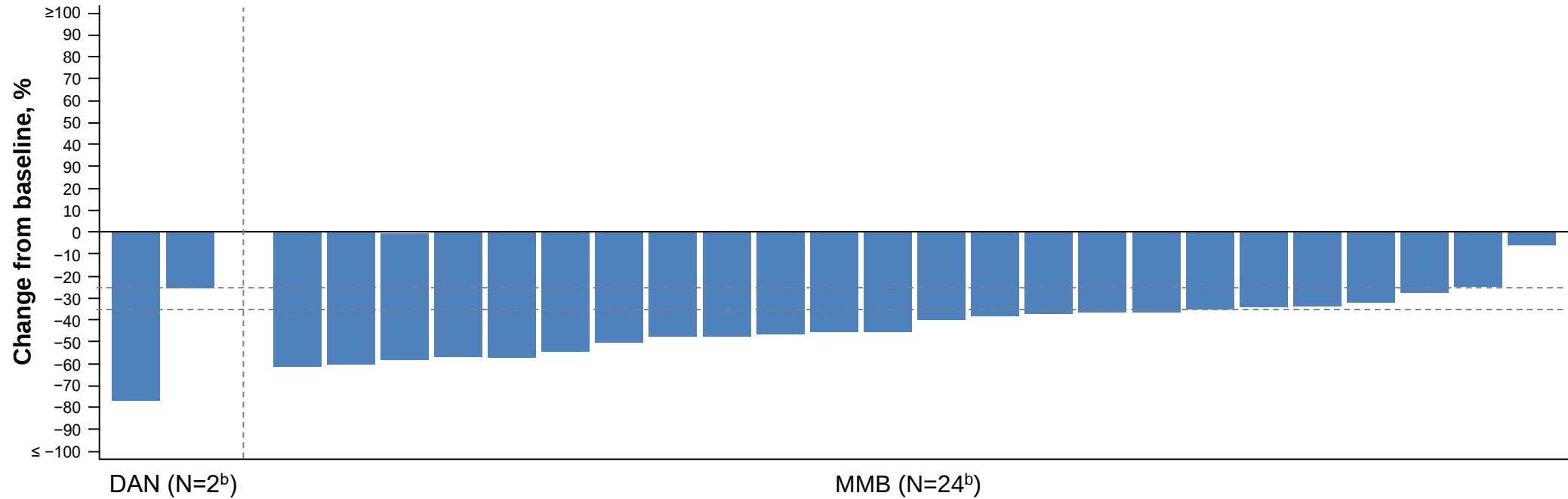
- Week 24 TI response was 31% in the MMB group and 20% in the DAN group
 - Consecutive 12-week TI-R^b was 44.6% in the MMB group and 29.2% in the DAN group (Poster #3028)
- Week 24 TI response was maintained in 36 of 40 (90%) MMB→MMB and 10 of 13 (77%) DAN→MMB patients

^aDefined as not requiring RBC transfusion in the prior 12 weeks and Hgb levels ≥ 8 g/dL; ^bConsecutive 12-week TI-R (defined as absence of RBC transfusions and no Hgb measurement below 8 g/dL over any 12-week period through week 24)
BL, baseline; DAN, danazol; Hgb, hemoglobin; ITT, intention-to-treat; MMB, momelotinib; OL, open-label; RBC, red blood cell; RT, randomized treatment; TI, transfusion independence.



Week 24 Spleen Responses^a Were Sustained Through Week 48

Week 48 Change From Baseline in Spleen Volume in Week 24 Spleen Responders



- Week 24 SRR35 response was 23% in the MMB group and 3% in the DAN group
- All SRR35 responders at week 24 maintained spleen volume below baseline (24 of 24 MMB→MMB and 2 of 2 DAN→MMB patients)

^aDefined as the proportion of patients who have a reduction in spleen volume of $\geq 35\%$ from baseline. ^bN is the number of patients with percent change in spleen volume at week 48 available. DAN, danazol; MMB, momelotinib; SRR35, splenic response rate $\geq 35\%$.

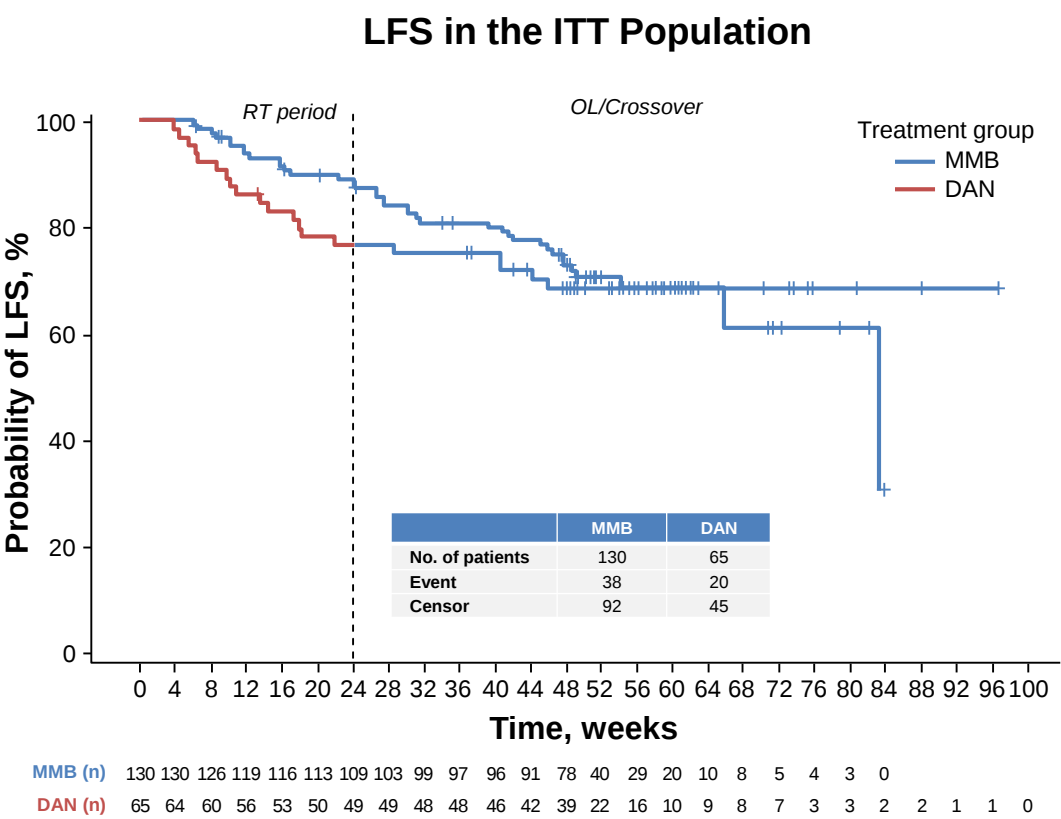
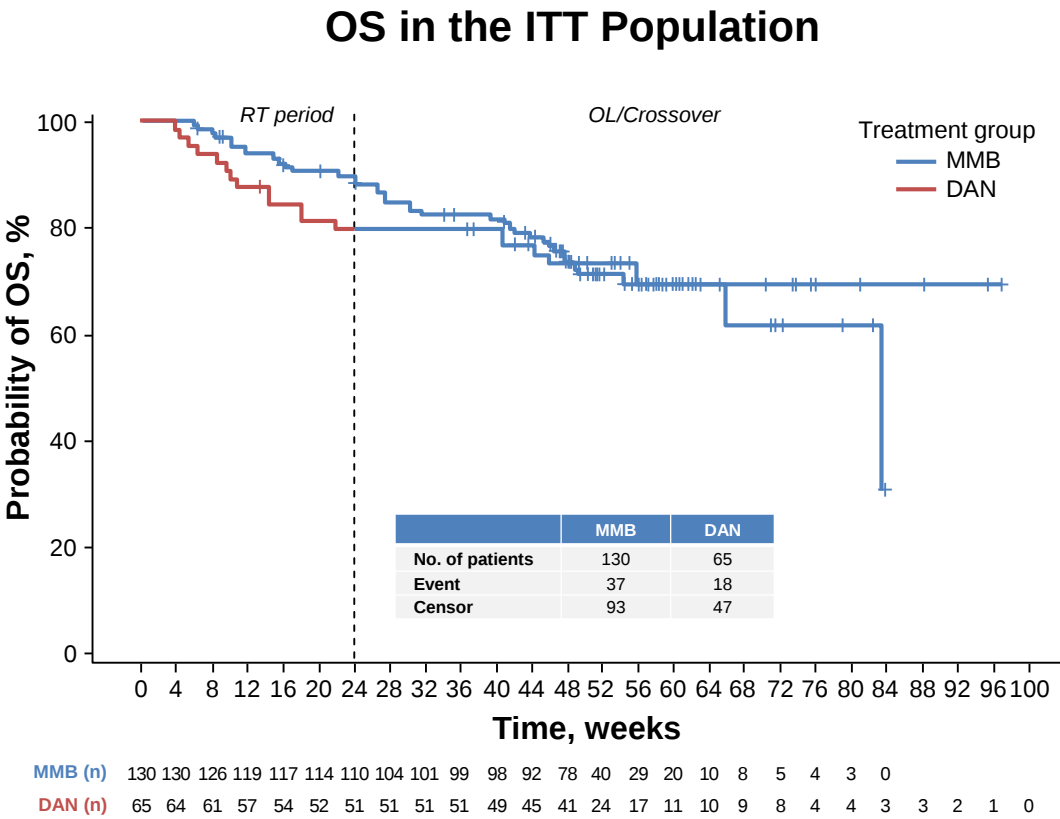
TEAEs in ≥10% of Patients During OL MMB Treatment with No New Safety Signals Detected

	MMB→MMB (n=93)		DAN→MMB (n=41)	
	% of patients			
Grade ≥3 adverse events	49.5		46.3	
Serious adverse events	31.2		29.3	
	Any grade	Grade ≥3	Any grade	Grade ≥3
Nonhematologic (preferred term)				
Weight decreased	7.5	0	14.6	0
Diarrhea	14.0	1.1	12.2	0
Pyrexia	14.0	0	7.3	0
Hypertension	3.2	0	12.2	2.4
Asthenia	11.8	3.2	0	0
Hematologic (preferred term)				
Thrombocytopenia	14.0	8.6	17.1	14.6
Anemia	10.8	8.6	7.3	2.4
Neutropenia	5.4	5.4	4.9	0
Other				
COVID-19 (pneumonia)	10.8	5.4	0	0
Peripheral sensory neuropathy	2.2	0	2.4	0

DAN, danazol; MMB, momelotinib; OL, open-label; TEAE, treatment-emergent adverse event.



OS and LFS Curves for MMB→MMB and DAN→MMB Converged After All Patients Crossed Over to OL MMB at Week 24^a

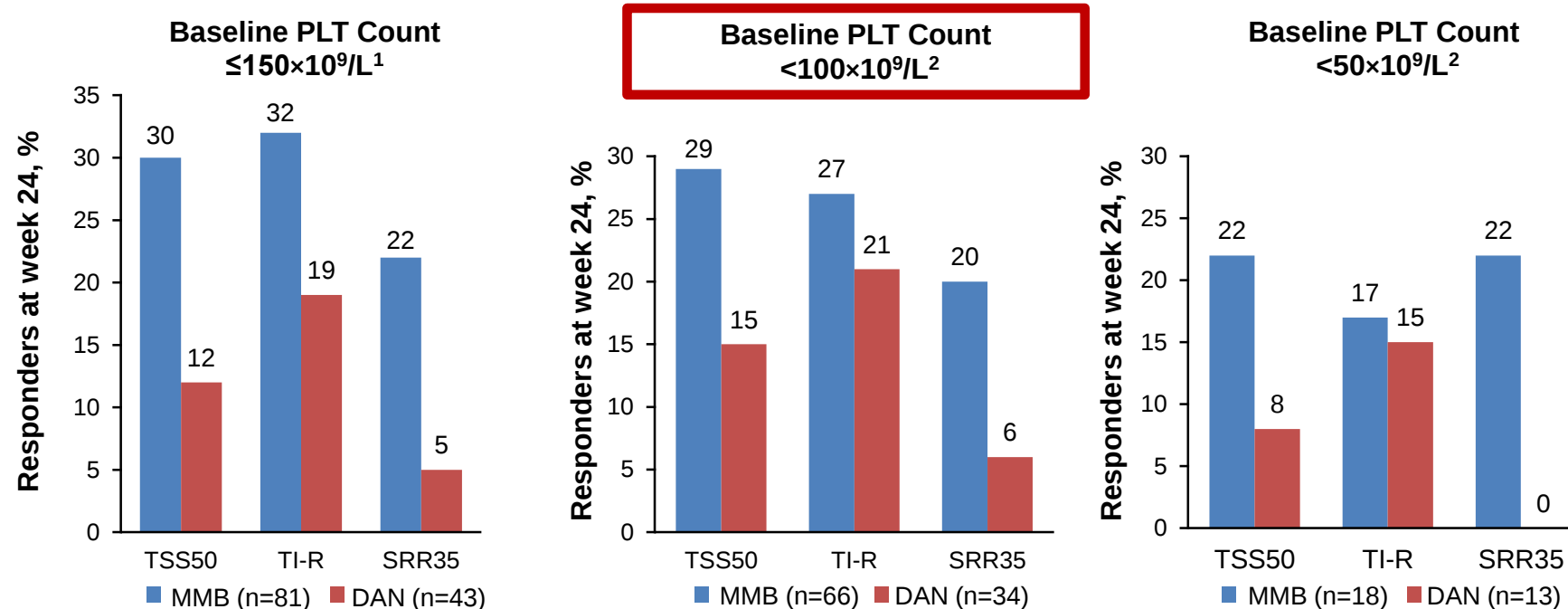


OS was significantly improved for MMB→MMB patients who achieved a week 24 TI response (Poster 3028)

^aMedian follow-up for OS was 51 weeks (range, 6-84 weeks) for MMB-treated and 53 weeks (range, 4-97 weeks) for DAN-randomized patients.
DAN, danazol; LFS, leukemia-free survival; MMB, momelotinib; OL, open-label; OS, overall survival; RT, randomized treatment.



Efficacy in Patients With Thrombocytopenia Was Consistent With the Overall ITT Patient Population



- For baseline PLTs $< 100 \times 10^9/L$, week 24 responses were also well maintained during OL period:
 - TSS50 responders: 18 of 19 (95%) MMB→MMB and all (5 of 5; 100%) DAN→MMB patients maintained TSS responses
 - TI-R responders: 16 of 18 (89%) MMB→MMB and 5 of 7 (71%) DAN→MMB patients maintained TI responses
 - SRR35 responders: 13 of 13 (100%) MMB→MMB and 2 of 2 (100%) DAN→MMB patients maintained splenic responses

BL, baseline; DAN, danazol; Hgb, hemoglobin; ITT, intention-to-treat; MMB, momelotinib; OL, open-label; PLT, platelet; SRR35, splenic response rate $\geq 35\%$; TI-R, transfusion independence response; TSS50, total symptom score $\geq 50\%$ response.
1. Gerds AT, et al. Abstract presented at: 2022 ASCO Annual Meeting; June 3-6, 2022; Chicago, IL and Virtual. Abstract 7061; 2. Gerds AT, et al. Poster presented at: 2022 ASCO Annual Meeting; June 3-6, 2022; Chicago, IL and Virtual. Poster 292.

Safety in Patients With Thrombocytopenia (PLTs $<100 \times 10^9/L$) Was Consistent With the ITT

	MMB→MMB (N=46)		DAN→MMB (N=24)	
	% of patients			
Grade ≥3 adverse events	50.0		45.8	
Serious adverse events	32.6		25.0	
	Any grade	Grade ≥3	Any grade	Grade ≥3
Nonhematologic (preferred term)				
Diarrhea	15.2	0	12.5	0
Asthenia	15.2	2.2	0	0
Blood creatinine increased	8.7	0	12.5	0
Pyrexia	13.0	0	4.2	0
Fatigue	8.7	2.2	8.3	4.2
Hemorrhage (SMQ) ^a	34.8	15.2	33.3	4.2
MACE	6.5	6.5	0	0
Hematologic abnormalities ^a				
Thrombocytopenia	21.7	15.2	25.0	20.8
Neutropenia	8.7	8.7	8.3	0
Anemia	8.7	4.3	8.3	4.2

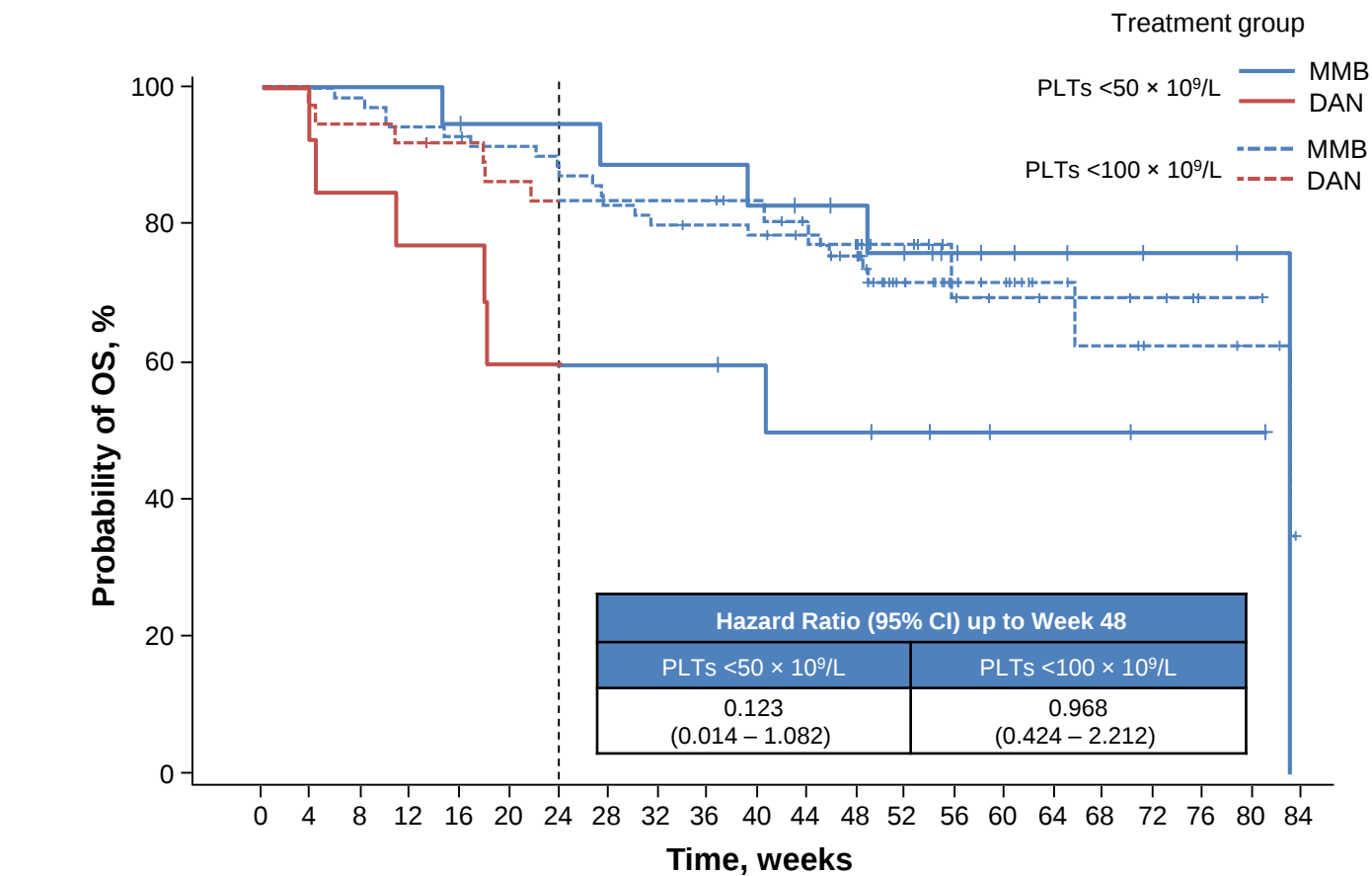
Grade ≥ 3 bleeding events occurred in 15% of MMB→MMB and 4% of DAN→MMB patients

MACE occurred in 7% of MMB→MMB patients and 0% of DAN→MMB patients

^aContusion, epistaxis, hematoma, traumatic hematoma, upper gastrointestinal hemorrhage, cerebral hemorrhage, eye contusion, gingival bleeding, hematochezia, hemorrhagic erosive gastritis, hyphema, injection site bruising, esophageal varices hemorrhage, optic disc hemorrhage, petechiae, spontaneous hematoma, or subdural hematoma. DAN, danazol; ITT, intention-to-treat; MACE, major adverse cardiovascular events; MMB, momelotinib; OL, open-label; PLT, platelet; SMQ, standardized MedDRA queries.



Improved OS Was Observed in Patients With Baseline PLTs $<50 \times 10^9/L$



- BL PLTs $<100 \times 10^9/L$, median follow-up of 54 weeks for MMB→MMB patients and 53 weeks for DAN→MMB patients
- BL PLTs $<50 \times 10^9/L$, median follow-up of 56 weeks for MMB→MMB patients and 54 weeks for DAN→MMB patients

PLTs $<50 \times 10^9/L$	MMB (n)	18	18	18	18	17	16	16	15	15	15	14	13	12	11	8	5	4	3	2	2	1	0
	DAN (n)	13	12	11	10	9	7	7	7	7	7	6	5	5	4	3	2	2	2	1	1	1	0
PLTs $<100 \times 10^9/L$	MMB (n)	66	66	65	62	61	59	57	53	51	50	49	47	43	26	18	14	8	6	4	4	3	0
	DAN (n)	34	33	32	31	30	28	27	27	27	27	25	22	21	13	8	6	5	5	4	1	1	0

BL, baseline; DAN, danazol; MMB, momelotinib; OS, overall survival; PLT, platelet; RT, randomized treatment.



Conclusions and Implications

In this updated analysis, OL momelotinib maintained week 24 symptom, TI, and spleen responses with continued favorable survival and safety

This study reports sustained TSS response through week 48, and new TSS responses beyond week 24 for the first time

No new safety signals were detected beyond week 24

Efficacy and safety results in patients with thrombocytopenia were consistent with the overall ITT population

Momelotinib is the first and only JAK1 and JAK2 inhibitor that also decreases hepcidin through ACVR1 inhibition, thus providing benefit for patients with MF and anemia, which is an unmet need in MF treatment

These findings support the potential use of momelotinib as an effective treatment in patients with MF, particularly in patients with anemia and thrombocytopenia

ACVR1, activin A receptor type 1; ITT, intention-to-treat; JAK, Janus kinase; MF, myelofibrosis; OL, open-label; TI, transfusion independence; TSS, total symptom score.



Acknowledgments

- Sierra Oncology, Inc. and GSK would like to thank all patients, caregivers, investigators, and study personnel
- This study was funded by Sierra Oncology, Inc., a GSK company
- Statistical support for this study was provided by Eric Schreiber, Director, Sierra Oncology, Inc., a GSK company
- Writing support was provided by Ekaterina Taneva, PhD, and Eugene Kang, PhD, of The Lockwood Group (Stamford, CT, USA), and was supported by funding from Sierra Oncology, Inc. (San Mateo, CA, USA), a GSK company

Access a Plain Language Summary of this presentation by scanning this QR code or via <http://tago.ca/2-ash>.



Presenting author contact: gerdsa@ccf.org

