Actinium Pharmaceuticals, Inc.

KOL Call with Dr. Sergio Giralt

Iomab-B Pivotal Phase 3 SIERRA Results

February 28, 2023

ATNM: NYSE AMERICAN

Today's Agenda

1) Iomab-B Pivotal Phase 3 SIERRA Trial Results – Dr. Sergio Giralt

2) Moderator Led KOL Q&A – Dr. Sergio Giralt

3) Live Q&A – Dr. Sergio Giralt and Actinium

Dr. Sergio Giralt

Memorial Sloan Kettering Cancer Center

Deputy Division Head, Division of Hematologic Malignancies

Melvin Berlin Family Chair in Multiple Myeloma

Chief Medical Officer, MSK Direct

Attending Physician, Adult Bone Marrow Transplant Service

Professor of Medicine, Weill Cornell Medical College

- Clinical and research activities focused on bone marrow transplant for patients with blood disorders and improving treatments for older patients with acute and chronic leukemia
- Pioneered the use of reduced-intensity conditioning regimens for older or more debilitated patients with blood cancer
- Principal investigator for numerous clinical trials aimed at reducing symptom burden and improve treatment tolerability
- Previously Deputy Chair of the Department of Stem Cell Transplantation and Cellular Therapies at the University of Texas MD Anderson Cancer Center
- M.D. – Universidad Central de Venezuela
- Residency – Good Samaritan Hospital
- Fellowship - University of Texas MD Anderson Cancer Center

Disclosures:
Iomab-B Advisory Board Member

Efficacy and Safety Results of the SIERRA Trial:
A Multicenter, Pivotal Phase 3 Study of Iomab-B Prior to Allogeneic Hematopoietic Cell Transplantation Versus Conventional Care in Older Patients with Active, Relapsed or Refractory Acute Myeloid Leukemia (R/R AML)

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Acknowledgement of SIERRA Trial Sites

Iomab-B and SIERRA Trial Overview

- Patients with active, R/R AML have a dismal prognosis, particularly with increasing age, and typically are not offered allogeneic HCT due to failure to achieve remission, poor tolerance of conditioning, and substantial transplant-related mortality
- SIERRA was designed to offer R/R AML patients who are HCT ineligible and would therefore only receive palliative care a path to potentially curative HCT
- Iomab-B (Iodine (131I) apamistamab), an anti-CD45 antibody conjugated to radioactive iodine (131I), is designed to deliver targeted myeloablative radiation to hematopoietic cells along with reduced intensity conditioning prior to allogeneic HCT
- The SIERRA Trial is a prospective, randomized, controlled Phase 3 study in patients ≥ 55 years to compare rates of durable complete remission (dCR) ≥180 days following initial complete remission (CR/CRp) between two arms:
  - Iomab-B followed by HCT versus
  - Physician's choice conventional care (CC) followed by HCT

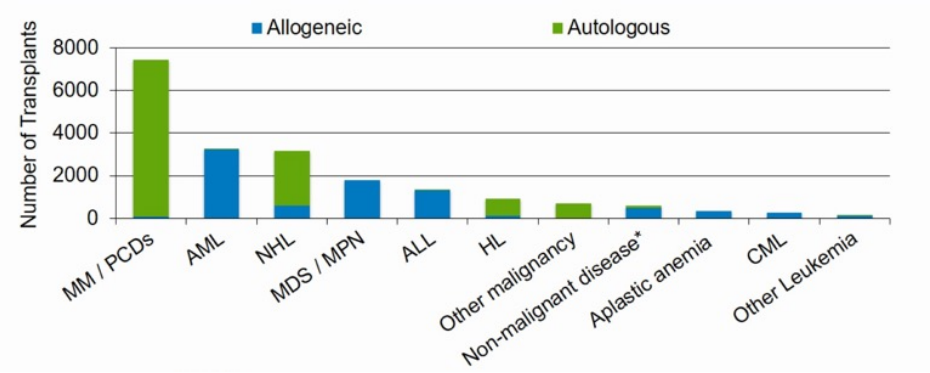
Dismal Prognosis for Older R/R AML Patients

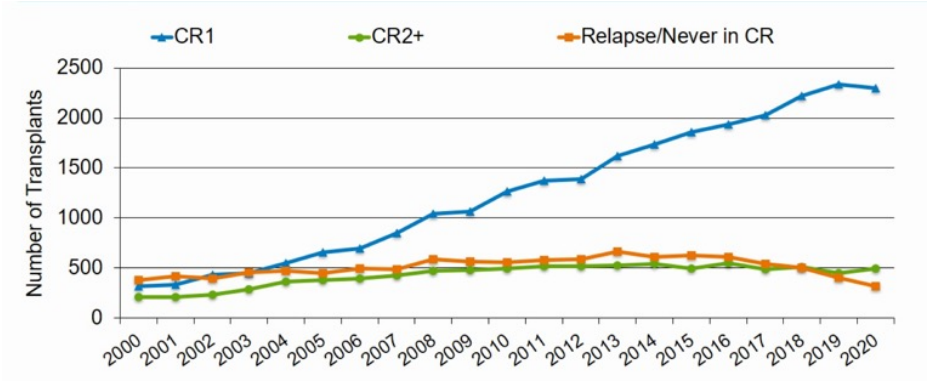
21,000
patients diagnosed with AML annually[1]; biggest indication for Allo-HCT

68 years
Median age at diagnosis, >70% age 55 or above[1]; outcomes for older patients remain poor[2]

>50%
of AML patients develop R/R disease[2]; poor access to HCT and dismal outcomes

Transplant remains the only curative option for R/R AML despite multiple drug approvals





Number of allogeneic transplants continues to grow due to their curative potential but older patients and active disease, relapsed/refractory AML patients are typically not transplanted today[3]

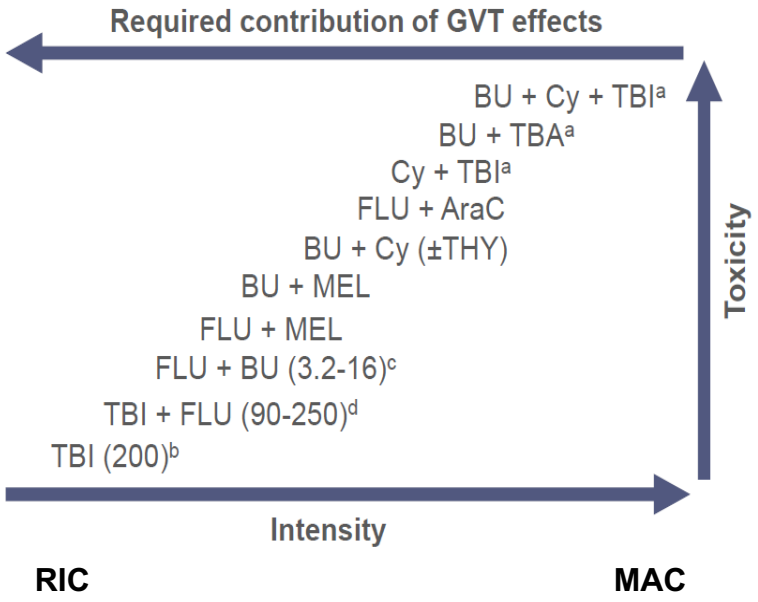
1) WHO, SEER AML Factsheet
2) Gyurkocza et al. Allogeneic hematopoietic cell transplantation in patients with AML not achieving remission: potentially curative therapy. *Bone Marrow Transplantation* (2017), 1-80.
3) Auletta JJ, Kou J, Chen M, Shaw BE. Current use and outcome of hematopoietic stem cell transplantation: CIBMTR US summary slides, 2021.

Factors Preventing Patients From the Benefits of a BMT

Hurdles to a successful BMT	R/R AML Patient Risks, Limitations
Not in CR, Need to get Into CR	Unable to tolerate intensive chemotherapy to induce CR
Receive Effective Conditioning	Unable to tolerate myeloablative conditioning, RIC conditioning to improve tolerability has high relapse rate
Achieve and Maintain a Remission Post BMT	Need to engraft successfully and achieve post transplant disease control
Tolerate BMT and survive related toxicities	High rates of infection/sepsis and GVHD lead to post-BMT mortality

Current Conditioning Regimens for BMT

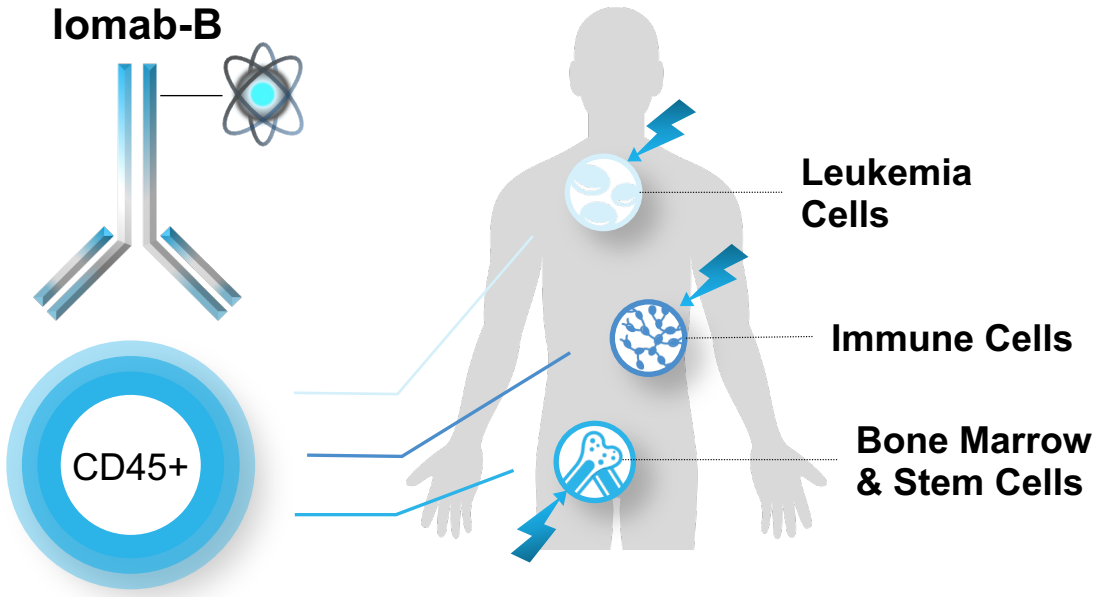
Chemotherapy and Radiation are used at varying intensities for conditioning to enable a BMT



- Conditioning uses chemotherapies that have been used for decades and non-targeted total body irradiation
- Various combinations and intensities based on patient's "fitness" or ability to tolerate
- MAC has better disease control but higher toxicities and mortality
- More intensive conditioning regimens such as Flu + Mel + TBI (800 cGy) have been used in the recent ASAP trial
- RIC is better tolerated but is associated with higher rates of relapse as it does not control disease

RIC – Reduced Intensity Conditioning, MAC – Myeloablative Conditioning

Iomab-B: Targeted Treatment for Disease Control and Conditioning



Promise of Iomab-B Treatment

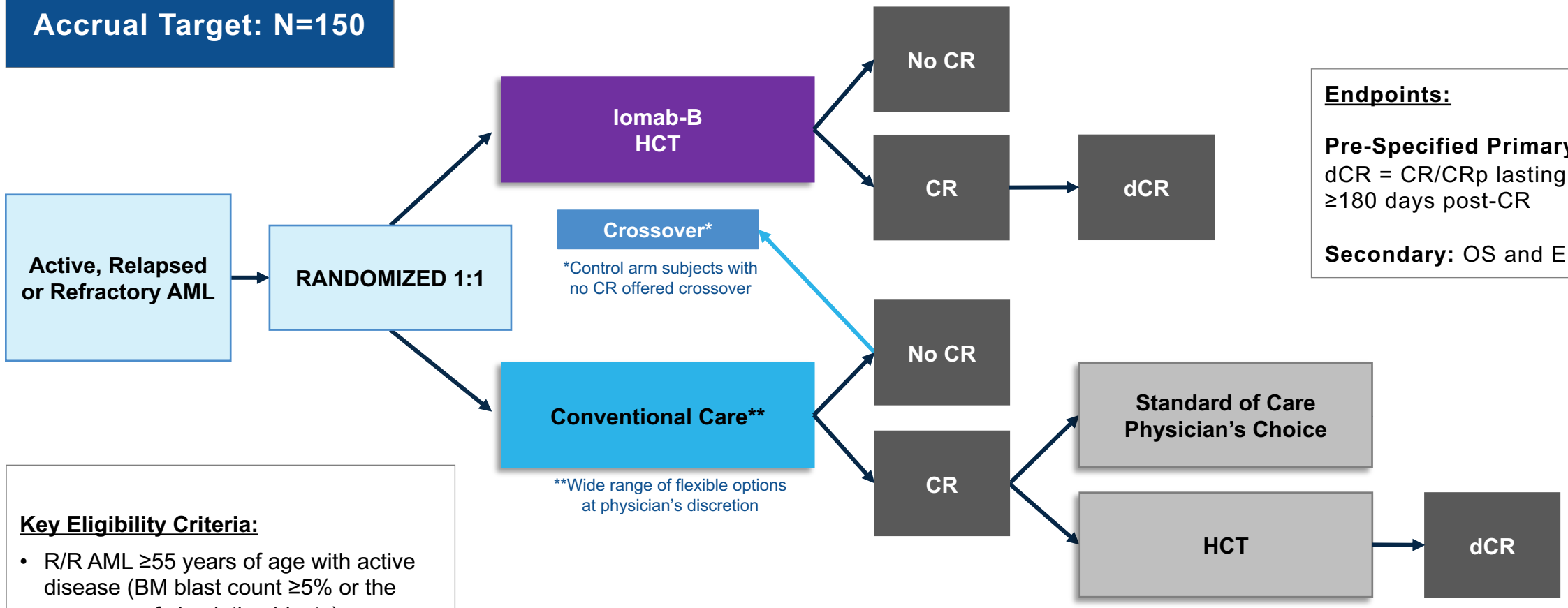
Disease control and myeloablative conditioning in one agent means a patient not in CR can get a transplant faster and engraft successfully

Targeted therapy can enable higher durable CR's and better survival with improved safety

- Iomab-B targets CD45, which has high expression only in AML immune and stem cells, thereby sparing organs and increases tolerability
- Supported by data in 400 patients, in 6 disease indications with a consistent clinical profile
- Enables high amounts of radiation to be delivered to radiation sensitive AML and immune cells
- Induction and conditioning by simultaneously eliminating targeted cells
- Allows patients with active disease to go directly to BMT rapidly via a single infusion
- Applicable in virtually all hematologic malignancies and non-malignant indications where HCT is used

SIERRA: Study of Iomab-B in Elderly R/R AML

Accrual Target: N=150



Endpoints:

Pre-Specified Primary:
dCR = CR/CRp lasting ≥180 days post-CR

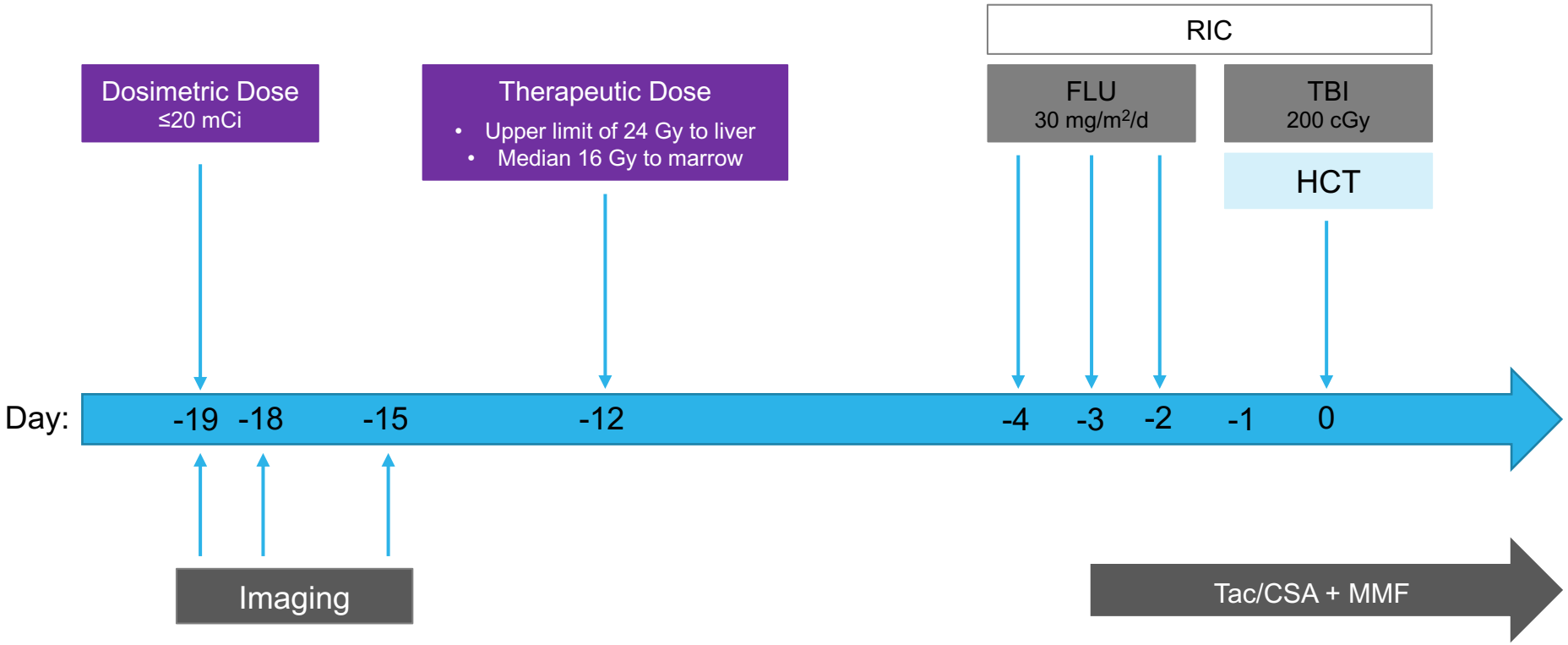
Secondary: OS and EFS

Key Eligibility Criteria:

- R/R AML ≥55 years of age with active disease (BM blast count ≥5% or the presence of circulating blasts)
- Karnofsky score ≥70
- 8/8 allele-level, related or unrelated matched donor
- Previous HCT were excluded

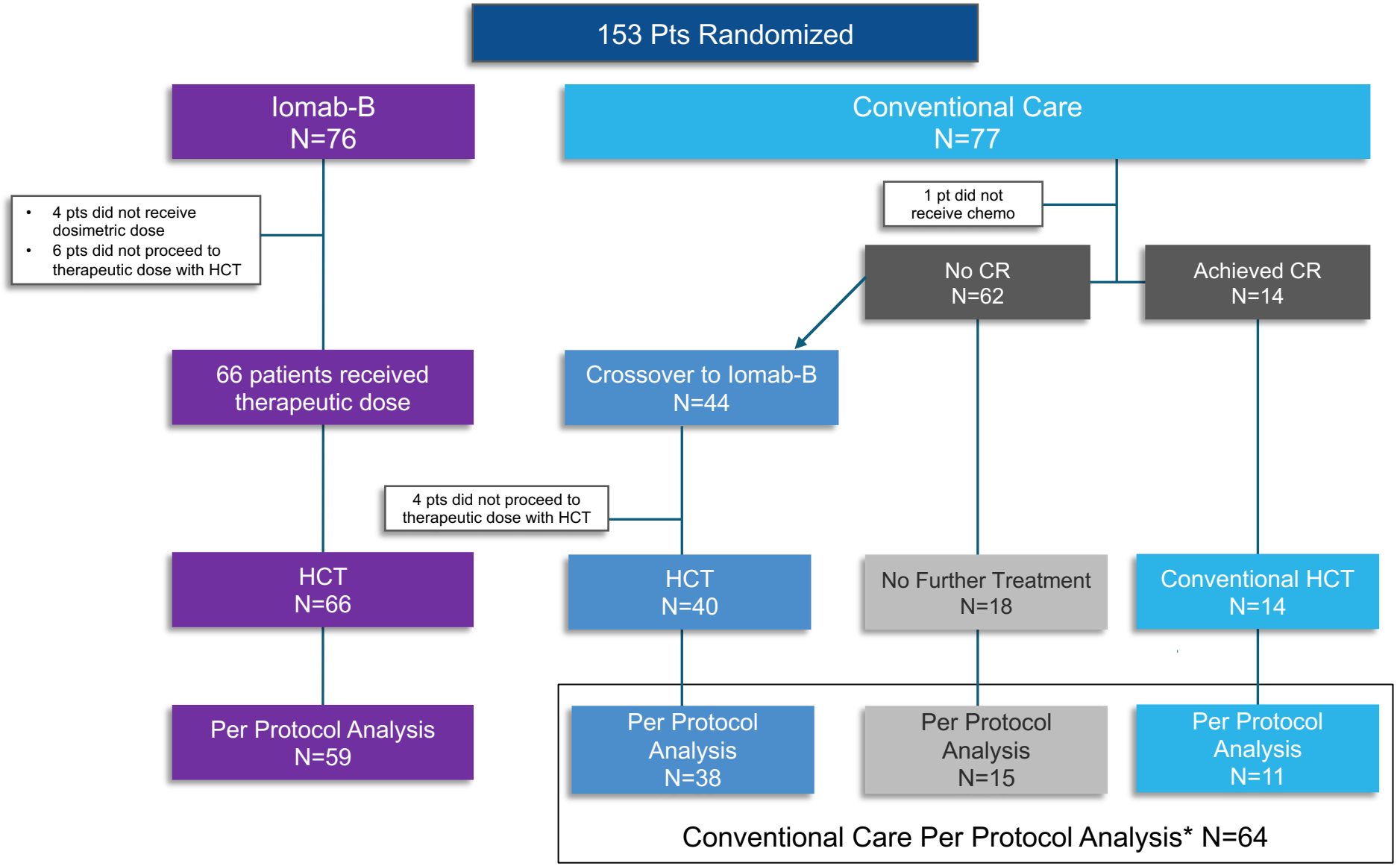
SIERRA was designed to offer patients who would otherwise receive palliative care a path to a potentially curative HCT

Personalized Single Dose Combined Induction/Conditioning



RIC: reduced intensity conditioning; FLU: fludarabine; TBI: total body irradiation; HCT: hematopoietic cell transplant; Tac/CSA: tacrolimus/cyclosporine; MMF: mycophenolate mofetil

SIERRA Trial CONSORT Chart



* Patients were excluded from the Per Protocol Analysis Set due to 1) major protocol deviations that impacted interpretation of the primary endpoint, 2) missed disease assessments, or 3) failure to complete primary therapy.

Patient Characteristics

Complete Enrollment, N = 153

	Iomab-B Arm (N=76)	Conventional Care Arm (N=77)	Randomized to Conventional Care and Crossed Over to Iomab-B (N=44)
Age, years Median (Range)	64 (55-77) Pts ≥70 yrs: 14 (18.4%)	66 (55-76) Pts ≥70 yrs: 16 (20.8%)	64 (55-76) Pts ≥70 yrs: 12 (27.3%)
Cytogenetic and Molecular Risk[1] N (%)	Favorable: 5 (6.6) Intermediate: 27 (35.5) Adverse/Poor: 43 (56.6)	Favorable: 2 (2.6) Intermediate: 31 (40.3) Adverse/Poor: 43 (55.8)	Favorable: 1 (2.3) Intermediate: 21 (47.7) Adverse/Poor: 21 (47.7)
Disease Status at Randomization N (%)	Primary Induction Failure: 43 (56.6) First Early Relapse:16 (21.1) Relapse/Refractory: 10 (13.2) 2nd + Relapse: 7 (9.2)	Primary Induction Failure: 40 (51.9) First Early Relapse: 22 (28.6) Relapse/Refractory: 10 (13.0) 2nd + Relapse: 5 (6.5)	Primary Induction Failure: 24 (54.5) First Early Relapse: 11 (25.0) Relapse/Refractory: 7 (15.9) 2nd + Relapse: 2 (4.5)
Prior Lines of Treatment Median (Range)	3 (1-8)	3 (1-8)	3 (1-8)
Received Prior Targeted Therapy N (%)	47 (61.8)	47 (61.0)	26 (59.1)
Karnofsky Performance Status N (%)	≥90: 31 (40.8) <90: 45 (59.2)	≥90: 34 (44.2) <90: 43 (55.8)	≥90: 22 (50.0) <90: 22 (50.0)
% Marrow Blasts at Randomization Median (Range)	30% (2-97)[2]	20% (3-97)[2]	**At Randomization:** 24.5% (3-87)[2] **At crossover:** 35% (2-89)[2]

1. Per NCCN Guidelines, Version 3, 2020
2. Pts with <5% marrow blasts had circulating leukemic blasts

Conditioning and Transplant Characteristics

	Iomab-B (N=66)[1]	Standard HCT (N=14)	Crossover (N=40)[2]
Infused Activity Median (Range)	**664.4 mCi** (354-1027)	N/A	**613.3 mCi** (313-1008)
Dose to the Marrow Median (Range)	**16 Gy** (4.6-44.6)	N/A	**16 Gy** (6.3-39.8)
Time to HCT From Randomization Median (Range)	**29 Days** (23-60)	**66.5 Days** (35-104)	**61.5 Days** (36-161)
Engraftment Median (Range)	ANC: **14 Days** (9-31) PLT: **19 Days** (10-40)	ANC: **16 Days** (1-83) PLT: **14.5 Days** (1-35)	ANC: **13 Days** (10-35) PLT: **18 Days** (1-38)
HCT Comorbidity Index N (%)	0-2: **30** (45.5) ≥3: **36** (54.5)	0-2: **9** (64.3) ≥3: **5** (35.7)	0-2: **20** (50.0) ≥3: **20** (50.0)

1. Ten (10) pts randomized to Iomab-B did not receive therapeutic dose or undergo HCT
2. Four (4) pts crossed over but did not receive therapeutic dose or undergo HCT

Superior dCR Rate for Iomab-B versus CC

dCR assessed by Independent Endpoint Adjudication Committee

	Iomab-B N (%)	CC N (%)
Evaluable Per-Protocol*	59	64
Achieved CR/CRp	44 (74.6)	4 (6.3)
Maintained dCR of ≥180 days	13 (22.0)	0 (0.0)
	p<0.0001; 95% CI [12.29, 34.73]	

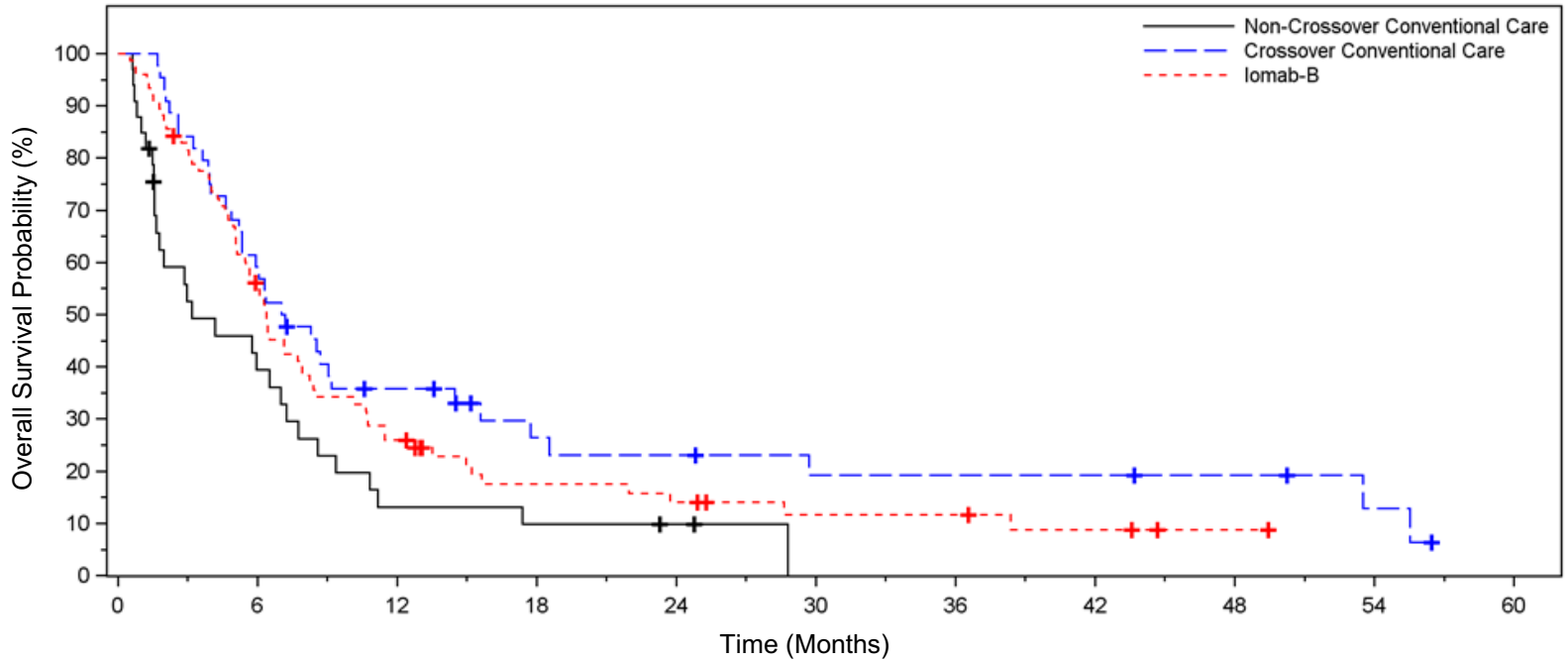
- In the crossover arm (N=44), 91% received transplant with 52.3% achieving CR/CRp
- Six crossover patients (13.6%) achieved dCR of ≥180 days (95% CI [5.17, 27.35])
- **Post-HCT maintenance with TKI allowed only for Iomab-B patients with FLT3 mutation, FLT3-ITD or BCR-ABL translocation at screening.**
- **CC pts received investigator's choice of post-HCT maintenance therapy.**

* Patients were excluded from the Per Protocol Analysis Set due to 1) major protocol deviations that impacted interpretation of the primary endpoint, 2) missed disease assessments, or 3) failure to complete primary therapy.

Iomab-B Doubles Overall Survival Compared to CC

	Iomab-B (N=76)	CC Only (without Crossover) (N=33)
Overall Survival (mos) Median (95% CI)	**6.4** (5.1, 7.9)	**3.2** (1.6, 7.0)
One-Year Survival % (95% CI)	**26.0** (16.7, 36.4)	**13.1** (4.2, 27.4)
Duration of Follow-up (mos) Median (Range)	**6.3** (0.5-49.5)	**3** (0.6-28.8)

- Median OS in crossover cohort was **7.1 mos** (95% CI [5.2, 9.2])
- In crossover cohort, survival at 1 year was **35.8%** (95% CI [22.0, 49.8])
- Duration of follow-up (median, range) was **7.1 mos** (1.7-56.5)

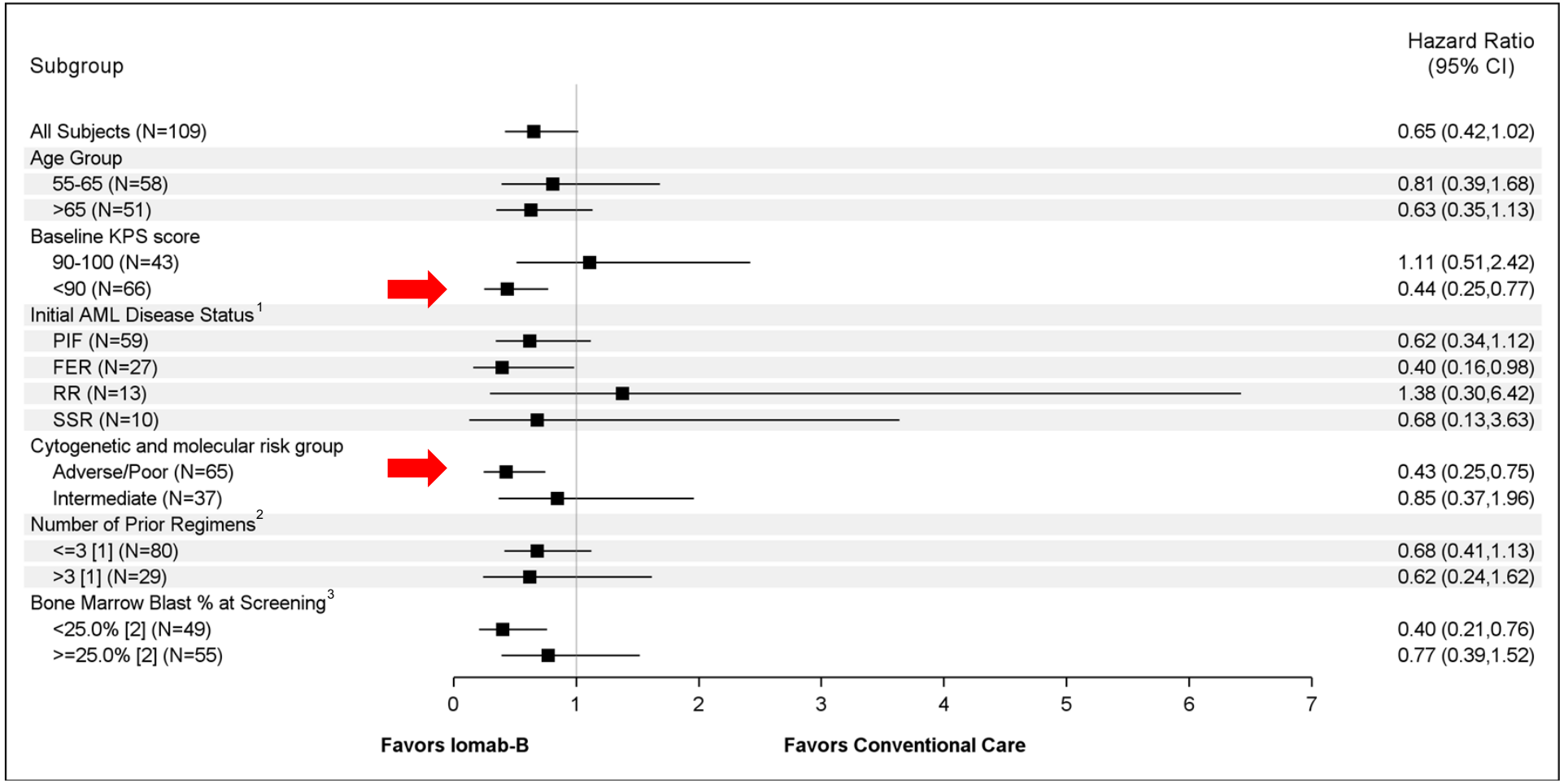


Maintenance Therapy May Further Improve Outcomes

- For patients randomized to Iomab-B, there was highly restrictive options for maintenance therapy limited to FLT3 inhibitors and TKIs
- In practice, we would start maintenance therapy for these patients who have a high-risk of relapse
- Iomab-B outcomes could be further improved with post-HCT maintenance therapy
- Iomab-B enables access to HCT for patients we could not otherwise be eligible, and then we have an opportunity to do more with these patients post-HCT to improve outcomes

Iomab-B Superior to CC Across a Majority of Subgroups

- Forest Plot of Hazard Ratios for Overall Survival
  - Iomab-B, N=76; CC (without Crossover), N=33



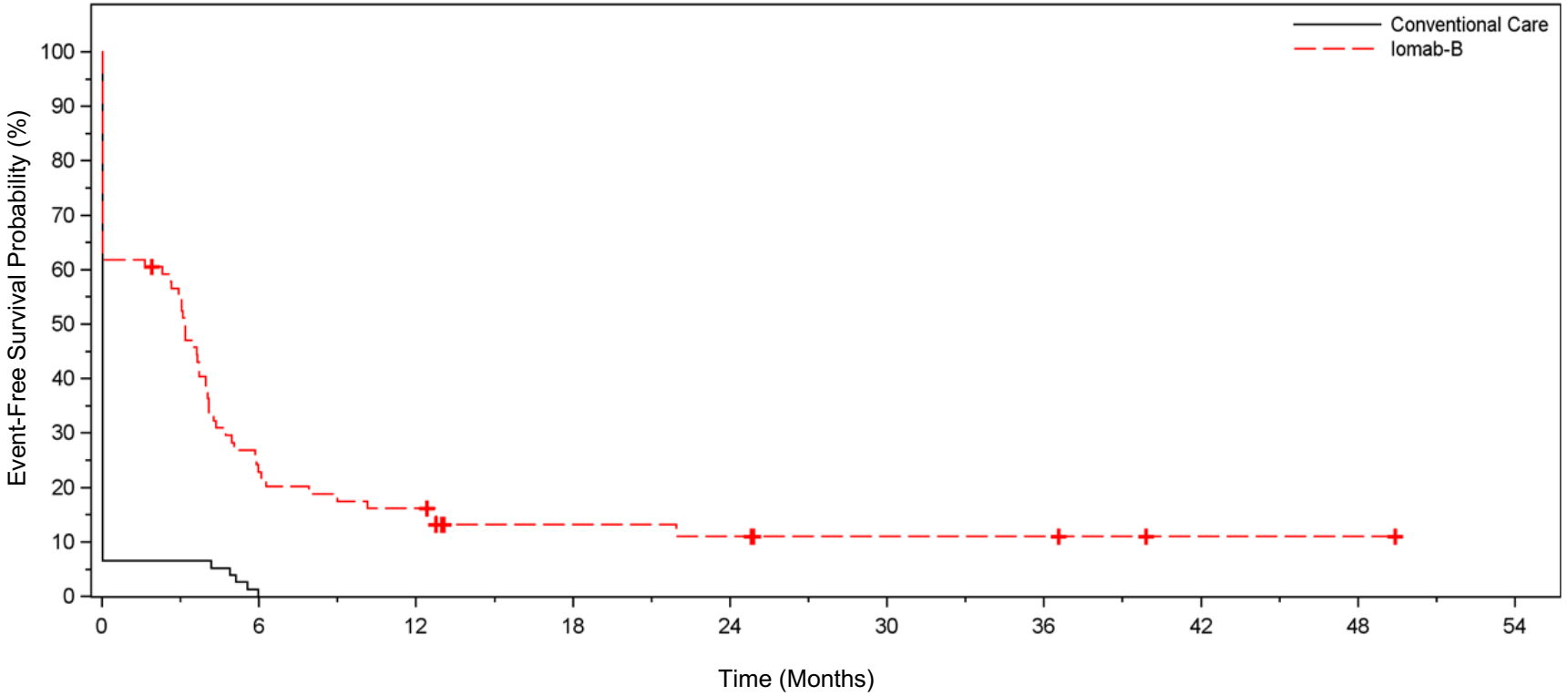
1. PIF: Primary induction failure; FER: First early relapse; RR: Relapse refractory; SSR: Second or subsequent relapse.
2. Median 3 prior regimens across both treatment groups for the Intent-to-Treat Analysis set
3. Median 25% marrow blasts across both treatment groups for the Intent-to-Treat Analysis set

Significantly Improved Event-Free Survival with Iomab-B Versus CC

EFS in Intent-to-Treat Groups

	Iomab-B (N=76)	CC (N=77)
EFS at 180 days	28%	0.2%

HR 0.22 (95% CI [0.15, 0.34])
p<0.0001

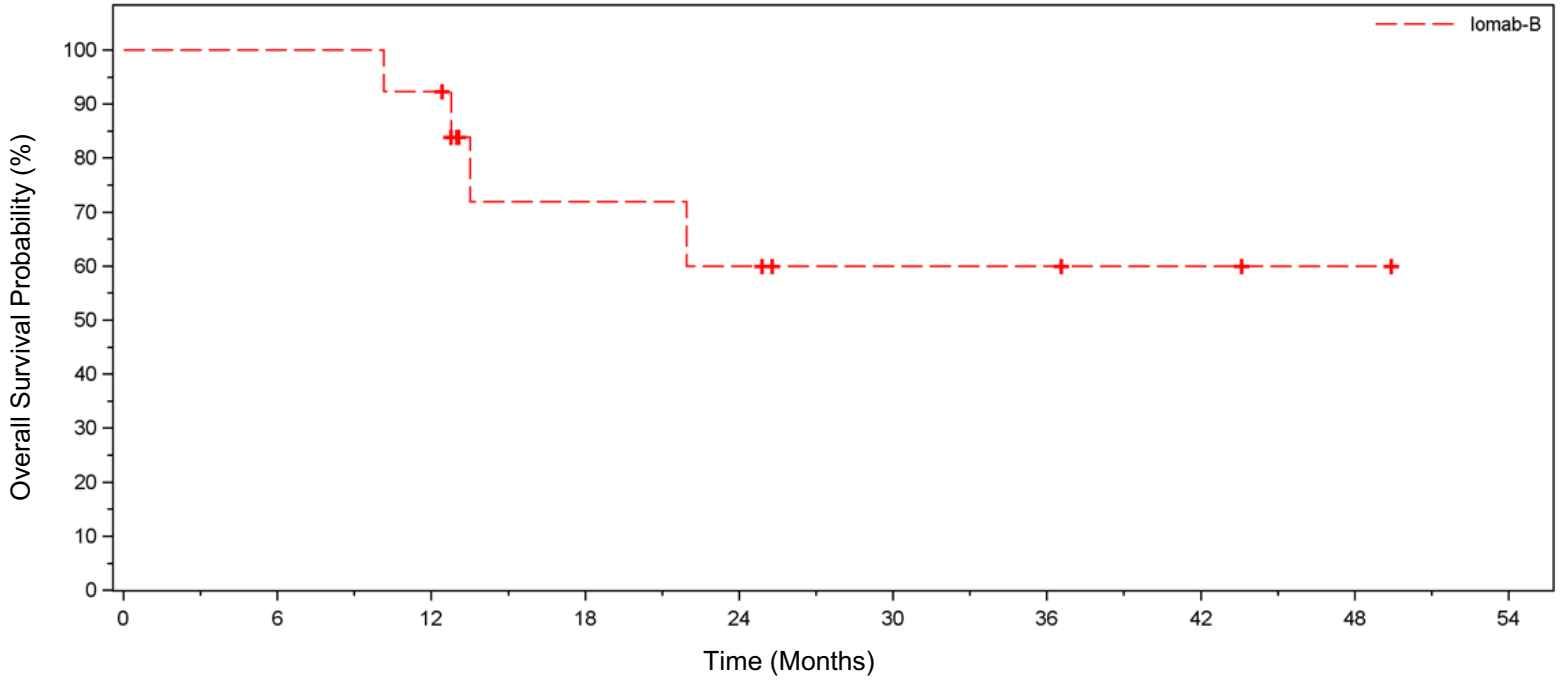


Events defined as:

- Induction treatment failure (ITF), defined as day of randomization
- Crossover following ITF
- Iomab-B patients who do not receive HCT
- Relapse after induction treatment success
- Death

Long-Term Survival in Patients with dCR on Study Arm

Rate of OS at:	Iomab-B (N=13)	CC (N=0)
6 months	100%	NA
12 months	92.3%	
18 months	71.9%	
24 months	59.9%	



Favorable Safety Profile for Iomab-B Compared to CC

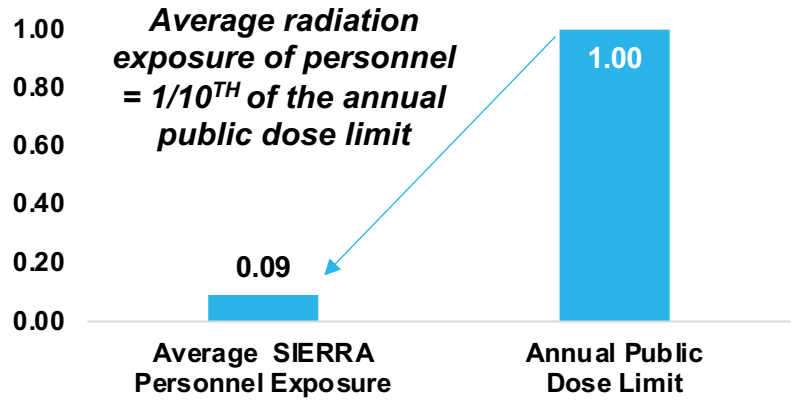
Grade ≥3 Treatment-Emergent Adverse Events in Transplanted Patients Through Day 100 Post-HCT

Adverse Event	Iomab-B (N=66)	CC (N=14)
Sepsis[1] N (%)	4 (6.1)	4 (28.6)
Febrile Neutropenia N (%)	29 (43.9)	7 (50.0)
Mucositis[2] N (%)	10 (15.2)	3 (21.4)
Acute GVHD (Gr III-IV)[3] Cumulative Incidence % (95% CI)	9.4 (3.8, 18.2)	14.3 (2.1, 37.6)

1. "Sepsis" includes Preferred Terms of Sepsis, Septic Shock, Neutropenic Sepsis & Septic Embolus
2. "Mucositis" includes Preferred Terms of Stomatitis & Mucosal Inflammation
3. GVHD Prophylaxis: Iomab-B pts received cyclosporin and mycophenolate mofetil, CC pts received investigator's choice of therapy

Iomab-B Patient Care is Easily Managed

- SIERRA trial conducted at 22 leading U.S. BMT centers treating over 100 patients with Iomab-B
  - Established procedures and protocols in place for patient care will facilitate commercial efforts
- MSKCC utilized Actinium shielding solutions for the majority of patients although we have lead-lined rooms available
  - Iomab-B can be administered in any corner hospital room utilizing shielding solutions
- Daily blood draws from central venous access device were feasible with minimal radiation exposure risk to caregivers and staff
- Sites were trained and equipped in conjunction with radiation safety officers to address any emergency situations with no interruption to clinical care
- Average exposure of personnel on study was 0.09 mSv, 1/10th of public dose limit of 1 mSv
- Coordination with nuclear medicine/radiation colleagues is in line with other radiotherapeutics



Iomab-B Next Steps

- Positive efficacy and safety results demonstrate benefit of Iomab-B in older R/R AML patients with active disease
- SIERRA met primary endpoint of dCR ≥180 days with high statistical significance<0.0001
- dCR is the appropriate endpoint in this setting and trial designed with FDA guidance
- Company intends to file a BLA for Iomab-B in 2H:2023
- Company plans to launch an early access program to make Iomab-B available prior to potential approval

Distinguishing SIERRA from the ASAP Trial

Objective of SIERRA & ASAP:
Take patients with R/R AML to transplant

Key Difference:
R/R AML Palliative care patients otherwise ineligible for HCT successfully transplanted in SIERRA while these unfit patients were excluded from ASAP trial

AML Patient Journey	SIERRA Eligible	ASAP Eligible
Fit PIF/1st Relapse	✓	✓
Unfit PIF/1st Relapse	✓	✗
2nd Relapse	✓	✗
2+ Relapse/Refractory	✓	✗
Palliative Care	✓	✗

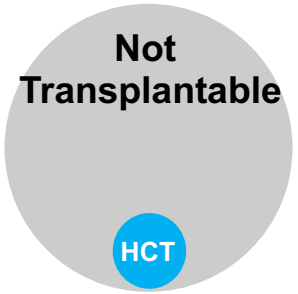
- ASAP trial enrolled **fit, transplant eligible** patients with early R/R AML to a HCT with intensive sequential conditioning deviating from current practice of getting patient into CR and then condition them for HCT
- ASAP used non-novel, non-targeted, chemotherapeutic conditioning regimens, which can be only tolerated by **fit patients** who represent approximately 15-20% of R/R AML patients
- ASAP trial is an approach to get fit patients to HCT without salvage therapy in a non-inferior way to current practice

Iomab-B is truly paradigm changing as it enables unfit, transplant ineligible patients with advanced R/R AML who would receive palliative care unprecedented access to a BMT and to benefit from the treatment

1) In Patients with Relapsed/Refractory AML Sequential Conditioning and Immediate Allogeneic Stem Cell Transplantation (allo-HCT) Results in Similar Overall and Leukemia-Free Survival Compared to Intensive Remission Induction Chemotherapy Followed By Allo-HCT: Results from the Randomized Phase III ASAP Trial 2)https://clinicaltrials.gov/ct2/show/NCT02461537

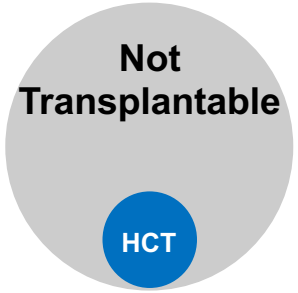
Potential to Increase Transplants in R/R AML

Current Status



- Only fit patients who achieve remission are taken to HCT
- <5% or ~400 R/R AML patients receive HCT with current treatment approaches/options[1]

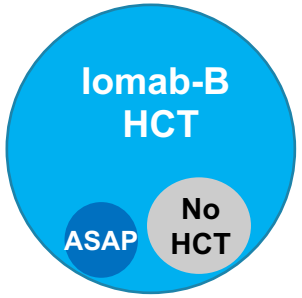
ASAP Trial



- Fit patients able to tolerate intensive therapy with active early disease (PIF/1st relapse) would be eligible to receive an ASAP HCT with sequential conditioning
- ~700 - 1,000 patients meeting this criteria in the U.S.[2]

ASAP Not Applicable to Iomab-B Population

Iomab-B Impact



- Vast majority of R/R AML patients are unfit and ineligible for intensive therapy with high-risk, heavily pre-treated active disease
- Typically, only offered palliative care
- ~8,000 patients HCT eligible with Iomab-B[2]

Potential Expansion to Fit and Earlier Stage Patients

1) Auletta JJ, Kou J, Chen M, Shaw BE. Current use and outcome of hematopoietic stem cell transplantation: CIBMTR US summary slides, 2021.
2) Credit Suisse Equity Research. Acute Myeloid Leukemia (AML): Clinical and Competitive Landscape July 13, 2022 and Company estimates
3) Images are for illustrative purposes only and may not be to scale

Conclusion

- SIERRA trial results demonstrate the viability of successfully transplanting R/R AML patients, who are currently offered palliative care, and improving their outcomes thereby paving the way for Iomab-B to become a new standard of care
- Iomab-B achieved the SIERRA trial primary endpoint of dCR with high statistical significance $p<0.0001$
- Doubled median and 1-year overall survival in all Iomab-B treated patients (study and crossover arm) despite restrictive maintenance therapy
- Event-Free Survival significantly improved with Iomab-B
- A significant proportion of patients who achieve dCR with Iomab-B are long-term survivors (60%)
- Iomab-B was well-tolerated with low rate of serious adverse events
- Further exploration of Iomab-B in other indications and with different conditioning regimens and donor types is planned

Actinium Pharmaceuticals, Inc.

Moderator Q&A with KOL

Actinium Pharmaceuticals, Inc.

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Audience Q&A with KOL and Company

Actinium Pharmaceuticals, Inc.

Actinium Pharmaceuticals, Inc.

Thank you

Actinium Pharmaceuticals, Inc.