



BLOOD AND MARROW
TRANSPLANT
CLINICAL TRIALS NETWORK

BMT CTN 1703/ PROGRESS III

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Statistical Analysis Plan

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VERSION HISTORY

This table is updated whenever a change to this document occurs. Record the new version date/number and summarize the changes to the document.

Version #	Creation/ Revision Date (DDMMYYYY)	Approved By	Approval Date (DDMMYYYY)	Reason for Change
1.0	26Jul2021	Brent Logan	26Jul2021	Initial version

List of Abbreviations

Abbreviations	Description of abbreviations
aGVHD	Acute graft-versus-host disease
AE	Adverse event
BMT CTN	Blood and Marrow Transplant Clinical Trials Network
CBC	Complete blood count
CI	Confidence interval
cGVHD	Chronic graft-versus-host disease
CMV	Cytomegalovirus
CTCAE	Common Terminology Criteria for Adverse Events
DSMB	Data and Safety Monitoring Board
GRFS	GVHD-Free, Relapse-Free Survival
GVHD	Graft-versus-host disease
HCT	Hematopoietic cell transplantation
IPCW-GEE	Inverse Probability of Censoring-Weighted Generalized Estimating Equation
IV	Intravenous
MDS	Myelodysplastic syndromes
MOP	Manual of Procedures
NHLBI	National Heart, Lung, and Blood Institute
NIH	National Institutes of Health
TRM	Treatment-related mortality
OS	Overall survival
DFS	Disease-free survival
PROMIS	Patient-Reported Outcomes Measurement Information System
SAE	Serious adverse events
SAP	Statistical analysis plan
SOC	System Organ Class

PROTOCOL SYNOPSIS

A Randomized, Multicenter Phase III Trial of Tacrolimus/Methotrexate versus Post-Transplant Cyclophosphamide/Tacrolimus/Mycophenolate Mofetil in Non-Myeloablative / Reduced Intensity Conditioning Allogeneic Peripheral Blood Stem Cell Transplantation

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Study Design: The study is designed as a randomized, phase III, multicenter trial comparing two acute graft-versus-host disease (aGVHD) prophylaxis regimens: tacrolimus / methotrexate (Tac/MTX) versus post-transplant cyclophosphamide / tacrolimus / mycophenolate mofetil (PTCy/Tac/MMF) in the setting of reduced intensity conditioning (RIC) allogeneic peripheral blood stem cell (PBSC) transplantation.

Primary Objective: The primary objective of the trial is to compare 1 year GVHD-free, relapse-free survival (GRFS) between the two GVHD prophylaxis regimens. An event for this time—to-event outcome is defined as grade III-IV aGVHD, chronic GVHD requiring systemic immune suppression, disease relapse or progression, or death by any cause.

Secondary Objective: Secondary objectives are to describe for each treatment arm rates of grade II-IV and III-IV aGVHD, rates of Minnesota high risk aGVHD, chronic GVHD, immunosuppression-free survival at 1 year, hematologic recovery (neutrophil and platelet), donor cell engraftment, disease relapse or progression, transplant-related mortality, rates of grade 3+ toxicity according to the Common Terminology Criteria for Adverse Events (CTCAE) version 5.0, incidence of grade 2-3 infections, immune reconstitution, and overall survival.

Eligibility Criteria: Eligible patients are at least 18.0 years of age undergoing allogeneic PBSC transplant for the treatment of acute leukemia and chronic myelogenous leukemia with no circulating blasts and less than 5% blasts in the bone marrow; or myelodysplasia/chronic myelomonocytic leukemia with no circulating blasts and less than 10% blasts in the bone marrow; chronic lymphocytic leukemia/small

lymphocytic lymphoma, follicular lymphoma, Hodgkin lymphoma, diffuse large B cell lymphoma, mantle cell lymphoma, peripheral T-cell lymphoma, angioimmunoblastic T-cell lymphoma and anaplastic large cell lymphoma sensitive to chemotherapy who are eligible for an allogeneic hematopoietic cell transplantation (HCT). Patients are eligible only if receiving a RIC regimen.

Patients must have a related or unrelated PBSC donor. Sibling donor must be a 6/6 match for HLA-A and HLA-B at intermediate or higher resolution, and DRB1 at high resolution using DNA-based typing; must be willing to donate peripheral blood stem cells; and meet institutional criteria for donation. Unrelated donor must be a 7/8 or 8/8 match at HLA-A, -B, -C, and -DRB1 at high resolution using DNA-based typing; must be willing to donate PBSCs; and be medically eligible to donate stem cells according to NMDP criteria.

Treatment Description:

Patients will be randomized to receive one of 2 specified GVHD prophylaxis regimens: Tac/MTX or PTCy/Tac/MMF. MTX will be dosed at 15 mg/m² Day +1, and 10 mg/m² Days +3, +6, and +11. PTCy will be dosed at 50 mg/kg on Days +3 and +4, followed by Tac/MMF. MMF will be dosed at 15 mg/kg every 8 hours from Day +5 to Day +35.

Accrual Objective:

The clinical trial will enroll 428 patients, or 214 per arm.

Accrual Period:

The estimated accrual period is 36 months.

Study Duration:

Patients will be followed for 1 year post-PBSC transplant.

Interim Analysis:

The study will include one interim analysis for efficacy, for the primary endpoint at the time when the required total number of events is reached. Z test statistic for comparing the two treatment arms will be compared to the critical values and results will be reviewed by the NHLBI-appointed Data and Safety Monitoring Board (DSMB). If the test statistic is outside the continuation range, the DSMB will be consulted on the discontinuation of the trial.

Stopping Guidelines:

Monitoring of the key safety endpoint of death will be conducted. The rate of overall mortality will be monitored up to Day 100 post-transplant separately in each of the 2 treatment arms. Each month, the null hypothesis that the Day 100 mortality rate is less than or equal to 15% is tested using a truncated Sequential Probability Ratio Test (SPRT) for censored exponential data.

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1.0 INTRODUCTION

This Statistical Analysis Plan (SAP) elaborates upon the analysis strategy introduced in the study protocol and includes detailed procedures for completing the statistical analysis of efficacy and safety endpoints.

The content herein is based on BMT CTN Protocol 1703 version 4.0. In order to prevent bias from arising in the analysis, Version 0.5 of the SAP will be finalized and signed before the interim analysis for efficacy, for the primary endpoint at the time when the required total number of events is reached. If required, revisions to the approved SAP may be made prior to the database hard lock. Revisions will be version controlled.

Any changes to the analyses described in the SAP will be detailed and justified in the final analysis report.

2.0 STUDY SCHEMA AND ASSESSMENT SCHEDULE

2.1 Study Schema

Outline of Treatment Plan

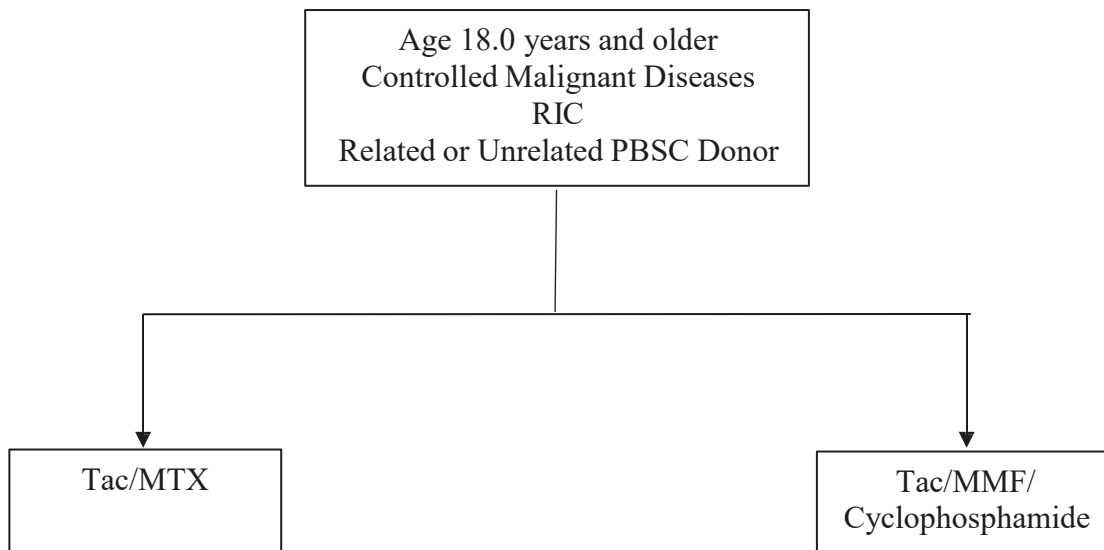


Figure 1. Outline of Treatment Plan

2.2 Schedule of Assessments

Table 1. Patient and Donor Clinical Assessment

	Pre-Conditioning	Pre-infusion	0	7	14	21	28	35	42	49	56	63	70	77	84	98	180	270	365	730
History, physical exam, weight and height ¹⁰	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Karnofsky performance status (see Appendix D)	X															X	X	X	X	
HCT-Specific Comorbidity Index score (see Appendix E)	X																			
Disease Risk Index (see Appendix F)	X																			
Donor and recipient HLA typing	X																			
CBC ¹ , differential, platelet count, and blood chemistries ²	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Infectious disease titers ³	X																			
EKG and LVEF	X																			
DLCO _{corr} and FEV ₁ predicted	X																			
Disease evaluation ⁴	X															X			X	
Chest x-ray or chest CT	X																			
Pregnancy test ⁵	X																			
GVHD assessments ⁶				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Toxicity assessments ⁷							X				X					X	X	X	X	
Infection assessments ¹¹	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Chimerism ⁸	X						X									X				

	Pre-Conditioning	Pre-infusion	0	7	14	21	28	35	42	49	56	63	70	77	84	98	180	270	365	730
Patient Mi-Immune research samples (see Appendix J) ⁹	9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Related donor CBC ¹²		X																		
Related donor Mi-Immune research samples (see Appendix J)		X																		
Patient Reported Outcomes (see Appendix H)	X															X	X			

Notes:

¹CBC with differential performed three times weekly from Day 0 until ANC at least 500/mcL or greater for three days and platelet count at least 20,000/mcL or greater after nadir, while hospitalized. CBC then performed weekly through Day 84 post-transplant, then at Days 98, 180, 270, 365 and 730 post-transplant (if patient consented to Mi-Immune study). For those patients participating in the Mi-Immune study, a CBC needs to be collected at the same time as the scheduled Mi-Immune research samples and reported in Advantage eClinical.

²Blood chemistries include: serum creatinine, albumin, bilirubin, alkaline phosphatase, AST and ALT. Blood chemistries performed twice weekly until hospital discharge. Blood chemistries performed weekly after hospital discharge until Day 84 post-transplant, then at Days 98, 180, 270 and 365 post-transplant.

³Infectious disease titers should be performed per institutional guidelines and may include: CMV, Hepatitis panel (HepA Ab, HepB SAb, HepB SAg, HepB Core Ab, HepC Ab), herpes simplex virus, syphilis, HIV and HTLV I/II antibody, and varicella zoster.

⁴Evaluation of disease: (A) For acute leukemia, CML, and MDS, evaluation for malignant disease includes a bone marrow aspirate and biopsy for pathology and cytogenetics. **A bone marrow biopsy must be performed no more than 44 days prior to the initiation of conditioning.** (B) For lymphomas, bone marrow biopsy and/or imaging studies are appropriate for disease evaluation and will be done according to institutional practices. Patients with lymphomas should undergo the same post-transplant testing as their pre-transplant evaluation for matter of subsequent comparison. **Imaging studies must be done no more than 60 days prior to patient randomization.**

⁵Pregnancy test must be performed < 30 days before the start of the transplant conditioning regimen. Pregnancy test is required for females of child-bearing potential and may be performed per institutional practices.

⁶GVHD assessments performed weekly from Day 7 until Day 84 post-transplant, and then at Days 98, 180, 270 and 365. The GVHD assessment will include a review of **all** abnormalities experienced **during the entire assessment period** and the **highest grade** for each abnormality during the assessment period will be recorded on the Acute GVHD form and the Follow-up/Chronic GVHD form in eClinical. The Chronic GVHD Provider Survey will record GVHD symptoms present in the last week (*whether attributed to GVHD or not*) and must be completed by a clinician on the day of the assessment.

⁷The toxicity assessment will include a review of **all** toxicities experienced **during the entire assessment period** and the **highest grade** for each toxicity during the assessment period will be recorded on the Toxicity form in eClinical.

⁸Chimerism may be evaluated in bone marrow, whole blood or blood cell fractions, including CD3 and CD33 or CD15 fraction, according to institutional practice. The actual measurement dates may be within +/- 7 days of the recommended time points.

⁹The pre-conditioning baseline sample must be collected prior to the initiation of the transplant conditioning regimen and pre-antibiotic prophylaxis. These samples are to be collected from those patients who have consented to the Mi-Immune research samples. For patients, stool samples at Pre-Conditioning, Day 0, Day 7, Day 14, Day 21, and Day 28 are **mandatory**. Starting day 35 through day 77, then at day 98, 180, 270, 1 year, and 2 years, the stool samples are **optional**. Weekly urine sample collection for microbiome assays starting Pre-conditioning through Day 270, then at 1 year, and 2 years are **ALL OPTIONAL**. Pre-transplant donor samples are to be collected from those donors who have signed the Mi-Immune consent.

¹⁰Height is only required at baseline. It is not required to be repeated at the other time points.

¹¹The additional infection assessments will be performed for patients who have consented to the Mi-Immune research samples.

¹²The related donor's CBC needs to be collected at the same time as the scheduled Mi-Immune research samples and reported in Advantage eClinical from those donors who have signed the Mi-Immune consent.

3.0 STUDY OBJECTIVES AND DESIGN

3.1 Study Objectives

The BMT CTN 1703 study is a Phase III randomized, open label, multicenter trial comparing post-transplant cyclophosphamide/tacrolimus/mycophenolate mofetil (PTCy/Tac/MMF) versus tacrolimus/methotrexate (Tac/MTX) for GVHD prophylaxis in patients with controlled malignant diseases receiving an allogeneic PBSC transplant after a RIC regimen. The primary endpoint is GRFS at 1 year.

3.1.1 Primary Objective

The primary objective of the randomized trial is to compare 1-year GRFS after HCT between PTCy/Tac/MMF versus Tac/MTX. An event for this time to event outcome is defined as grade III-IV acute GVHD, chronic GVHD requiring systemic immune suppression, disease relapse or progression, or death by any cause.

3.1.2 Secondary Objectives

Secondary objectives of the study are to assess the following:

1. Incidence of aGVHD grade II-IV and grade III-IV per the NIH Consensus Conference Criteria and Minnesota standard and high risk on aGVHD Grading at Days 100, 180 and at 1 year post-transplant.
2. Incidence of chronic GVHD at 1 year post-transplant.
3. Systemic immunosuppression-free survival at 1 year post-transplant.
4. Probabilities of neutrophil recovery by Day 28 and Day 100. Probabilities of platelet recovery by Day 60 and Day 100. Probabilities of lymphocyte recovery by Day 60 and Day 100.
5. Donor chimerism at Day 28 and Day 100.
6. Incidence of disease relapse or progression at 1 year post-transplant.
7. Incidence of treatment-related mortality (TRM) at 1 year post-transplant.
8. Toxicity frequencies, grades 3-5, up to 1 year.
9. Incidence of systemic infections at 1 year.
10. Overall survival (OS) and disease-free survival (DFS) at 1 year post-transplant.
11. Probabilities of post-transplant lymphoproliferative disease (PRLD) at 1-year.

12. Patient-Reported Outcomes at Day 0 (baseline) followed by Days 100, 180 and 1 year post-transplant.

3.2 Study Design

The study is designed as a Phase III randomized, open label, multicenter trial to compare PTCy/Tac/MMF versus Tac/MTX for GVHD prophylaxis in patients with controlled malignant disease receiving an allogeneic PBSC transplant after a RIC regimen. The primary endpoint is GRFS at 1 year. The target enrollment is 428 patients in total, with 214 patients on each of the two treatment arms.

The primary endpoint is GRFS as a time to event endpoint from the time of transplant. All transplanted patients will be followed for the primary endpoint for one year; however the primary endpoint will be analyzed as a time to event endpoint. The primary analysis will be done using the ITT population. The primary null hypothesis is that the hazard ratio for PTCy/Tac/MMF vs Tac/MTX for the GRFS endpoint is equal to one versus an alternative hypothesis that the hazard ratio is not equal to one. A hazard ratio equal to one indicates no difference between the two treatments, while a hazard ratio less than one implies that the hazard of GRFS is lower for patients receiving PTCy/Tac/MMF compared with those in the Tac/MTX patient group. A hazard ratio greater than one would indicate an opposite treatment effect. This null hypothesis will be tested using a two-sided significance level of 5%.

One interim analysis for efficacy is included, to be performed once there are 147 cumulative GRFS events for the primary endpoint. There will be no interim analyses for futility.

Site feasibility, selection, and qualification activities will not be performed for this project by Emmes. Please refer to the Project Management Plan for additional details.

3.3 Randomization

All patients will be randomized within 14 days prior to the initiation of conditioning therapy. Randomization will be performed in a 1:1 ratio using random block sizes for the two arms. Randomization will be stratified by centers and disease risk index (DRI Low, Intermediate and High). The DRI level “High” will include patients classified as both “High” and “Very High.”

4.0 SAMPLE SIZE AND POWER CONSIDERATIONS

4.1 Sample Size and Power

Sample size and power considerations are based on the comparison of PTCy/Tac/MMF to Tac/MTX using a Cox proportional hazards model. We assume an accrual period of 36 months and a 12-month follow-up period with a 5% drop-out rate. We further assume that the drop-out rate is exponentially distributed and that the GRFS endpoint matches the results of the BMT CTN 1203 trial control group. That is, the targeted effect size, HR of 0.66 is based on the

survival probabilities for GRFS of PTCy and Tac/MTX. Therefore, a sample size of 428 patients (214 per arm) is required to sufficiently maintain a two-sided type I error of 5% while providing 90% statistical power for a two-sided test to detect a HR of 0.66.

4.2 Interim Analysis and Stopping Guidelines

The study will consist of one interim analysis for efficacy after the required total number of events is reached in all evaluable patients for the primary endpoint to be reviewed by the NHLBI-appointed Data and Safety Monitoring Board (DSMB). An interim analysis for efficacy will be conducted after reaching a total of 147 events at a 60% information fraction. The final analysis will be conducted when the targeted number of events of 244 occurs, or 1 year after the last patient is randomized. Policies and composition of the DSMB are described in the BMT CTN’s Manual of Procedures.

Analyses will be performed as described below for the primary endpoint. At the interim analysis time point, a Z test statistic for comparing the two treatments will be compared to the critical values shown in Table 2. All patients with follow-up post randomization prior to the time of the interim analyses will be used to compute this statistic. If the test statistic is outside the continuation range, the DSMB will discuss the continuation of the trial.

Efficacy stopping rules are based on the Wang and Tsatis boundary family with shape parameters $P=1.44$, $A=0$, $R=0$ and $G=1.9618$. Higher values of P , with A and R fixed at zero, and G fixed at 1.9618 will cause the group sequential test to be increasingly conservative at the earliest analyses times. This boundary corresponds approximately to a hazard ratio less than 0.5918 or greater than 1.6898 and Z statistics less than -3.1710 or greater than 3.1710, respectively. A P-value less than 0.00152 at the interim analysis would indicate a statistically significant result.

Table 2. Efficacy Stopping Thresholds

Info. Fraction	Sample Size	Cumulative GRFS Events	Nominal Cumulative Type I Error Rate	Hazard Ratio Efficacy Boundary	Efficacy Boundary for Z Statistic
0.6	334	147	0.152%	(0.592, 1.690)	(-3.171, 3.171)
1.0	428	244	5.000%	(0.778, 1.286)	(-1.962, 1.962)

5.0 ANALYSIS POPULATIONS

5.1 Intention-to-Treat Population

The intention-to-treat (ITT) population consists of all randomized subjects, classified according to their randomized treatment assignments. All randomized subjects are included, regardless of whether the assigned study treatment was truly administered.

5.2 Transplant Population

The transplant population will include all subjects who have received a transplant after randomization.

5.3 Safety Analysis Population

The safety analysis population is comprised of all subjects “as treated” in the study. This population will be used for the analysis of safety data. The “as treated” population consists of all randomized patients who received a HCT with one of the two randomized GVHD prophylaxis regimens. Patients will be included in the treatment group corresponding to the study treatment (GVHD prophylaxis) they actually received for the analysis of safety data using the “as treated” population. For most patients this will be the treatment group to which they are randomized.

6.0 STUDY OUTCOMES

6.1 Primary Endpoint

The primary endpoint is GVHD/relapse or progression-free survival (GRFS). An event for this time to event outcome is defined as grade III-IV acute GVHD, chronic GVHD requiring systemic immune suppression, disease relapse or progression, or death by any cause.

Use of systemic immunosuppressive therapy for treatment of chronic GVHD is at the discretion of the treating physicians. The event of interest is the development of chronic GVHD severe enough to warrant any additional systemic treatment(s). Also, continuation of study-mandated GVHD prophylaxis beyond Day 180 in the presence of chronic GVHD will also be considered an event with time to event determined as date of chronic GVHD onset.

6.2 Secondary Endpoints

Specific information regarding study supplies will be outlined in the BMT CTN 2001 Manufacturing MOO.

6.2.1 Acute GVHD

Cumulative incidences of grade II-IV and III-IV acute GVHD will be determined. Acute GVHD will be graded according to Mount Sinai Acute GVHD International Consortium (MAGIC) Criteria (Harris et al. 2016). The time of onset of acute grades II-IV and III-IV acute GVHD will be recorded, as well as the maximum grade achieved. Within the acute GVHD endpoint, the proportion of patients with visceral involvement (liver or gut) will be described. Cumulative incidences of Minnesota standard and high risk acute GVHD will also be determined.

6.2.2 Chronic GVHD

The cumulative incidence of chronic GVHD will be determined. Data will be collected directly from providers and chart review as defined by the NIH Consensus Conference Criteria. Eight organs will be scored on a 0-3 scale to reflect degree of chronic GVHD involvement. Liver and

pulmonary function test results, and use of systemic therapy for treatment of chronic GVHD will also be recorded. These data will allow calculation of the NIH global severity scores of mild, moderate and severe chronic GVHD, which has been associated with transplant related mortality and overall survival. Assessment of chronic GVHD will occur up to 1 year post-transplant.

6.2.3 Systemic Immunosuppression-free Survival

Patients who are alive, relapse-free, and do not need ongoing immune suppression to control GVHD at one year post-transplant are considered successes for this endpoint. Immune suppression is defined as any systemic agents used to control or suppress GVHD. Corticosteroid doses greater than 10 mg will be considered active systemic immune suppression treatment. Patients who discontinued immune suppression within 15 days or less prior to the 1-year time point will be considered to be on immune suppression for this endpoint.

6.2.4 Hematologic Recovery

Hematologic recovery will be assessed according to neutrophil and platelet counts recovery after transplant. Neutrophil recovery is defined as achieving an absolute neutrophil count (ANC) greater than or equal to $500/\text{mm}^3$ for three consecutive measurements on three different days. The first of the three days will be designated the day of neutrophil recovery. The competing event is death without neutrophil recovery. For patients who never drop ANC below $500/\text{mm}^3$, the date of neutrophil recovery will be Day +1 post-transplant.

Platelet recovery is defined by two different metrics: the first day of a sustained platelet count greater than or equal to $20,000/\text{mm}^3$ or greater than or equal to $50,000/\text{mm}^3$ with no platelet transfusions in the preceding seven days. The first day of sustained platelet count above these thresholds will be designated the day of platelet engraftment. For patients who never drop their platelet count below $20,000/\text{mm}^3$ or $50,000/\text{mm}^3$, the date of platelet recovery will be Day +1 post HCT.

Lymphocyte recovery will be defined as the first day of sustained absolute lymphocyte count greater than or equal to $1000/\text{mm}^3$.

6.2.5 Donor Cell Engraftment

Donor cell engraftment will be assessed with donor/recipient chimerism studies. Chimerism may be evaluated in bone marrow, whole unfractionated blood or blood cell fractions, including CD3 and CD33 or CD15 fraction. For the purpose of this protocol, mixed chimerism is defined as the presence of donor cells, as a proportion of total cells to be less than 95% but at least 5% in the bone marrow or peripheral blood. Full donor chimerism is defined as greater than or equal to 95% of donor cells. Mixed and full chimerism will be evidence of donor cell engraftment. Donor cells of less than 5% will be considered as graft rejection. The proportion of patients with each level of chimerism described above will be described as part of this outcome. For sorted blood

cell fractions, CD3+ donor cell chimerism will be used to define the donor/recipient chimerism status.

6.2.6 Disease Relapse or Progression

Relapse is defined by either morphological or cytogenetic evidence of acute leukemia or MDS consistent with pre-transplant features, or radiologic evidence of lymphoma, documented or not by biopsy. Progression of disease applies to patients with lymphoproliferative diseases (lymphoma or chronic lymphocytic leukemia) not in remission prior to transplantation. The event is defined as increase in size of prior sites of disease or evidence of new sites of disease, documented or not by biopsy.

6.2.7 Transplant-Related Mortality

The cumulative incidence of TRM will be estimated at Days 100, 180 and 1 year after HCT. An event for this endpoint is death without evidence of disease progression or recurrence. Disease progression or recurrence will be considered competing events.

6.2.8 Toxicity

All grade 3-5 toxicities according to CTCAE, version 5.0 will be tabulated for each intervention arm up to 1 year post-transplant. The proportion of patients developing at least a grade 3 or more AE across intervention arms will be compared.

6.2.9 Infections

The incidence of definite and probable viral, fungal and bacterial infections will be tabulated for each intervention arm. The cumulative incidence of treated CMV reactivation in the first 100 days post-transplant will be described. All Grade 2 and 3 infections will be reported according to the BMT CTN Technical MOP up to 1 year post-transplant.

6.2.10 Disease-Free Survival (DFS)

Disease-free survival is the time from date of transplant to death or relapse/progression, whichever comes first. The event for this endpoint is relapse/progression or death. Patients alive and disease free will be censored at last follow-up.

6.2.11 Overall Survival (OS)

Overall survival is defined as the time interval between date of transplant and death from any cause. The event for this endpoint is death from any cause. Surviving patients will be censored at last follow-up.

6.2.12 Post-Transplant Lymphoproliferative Disease

The incidence of post-transplant lymphoproliferative disease (PTLD) will be measured at one year post-transplant.

6.2.13 Patient-Reported Outcomes (PRO)

PRO will be measured at Baseline and then at Day 100, Day 180 and 1 year post-transplant using the Lee Chronic GVHD Symptom Scale, Hemorrhagic Cystitis symptom questions, and selected PROMIS subscales for gastrointestinal symptoms, physical function and satisfaction with participation in social roles. The instruments will be scored according to the recommendations of the developers. PRO data will be collected electronically, or on paper vial mail if requested by the patient. Whether collected electronically or on paper, PRO data will be entered in the CIBMTR's ePRO system. The PRO instruments will only be offered to English and Spanish speaking patients.

6.3 Adverse Event Reporting Requirements

6.3.1 Definitions

Safety outcomes of interest include adverse events (AEs), serious adverse events (SAEs), and deaths. SAEs are defined as AEs that resulted in one of the following outcomes: death, a threat to life, requiring or prolonging inpatient hospitalization, causing persistent or significant disability, causing a congenital anomaly or birth defect, or requiring intervention to prevent any of the aforementioned outcomes.

Adverse Event: An Adverse Event (AE) is defined as any unfavorable and unintended sign (including an abnormal laboratory finding), symptom, or disease that is temporally associated with the use of a medical treatment or procedure regardless of whether it is considered related to the medical treatment or procedure.

Expectedness: An adverse event can be Expected or Unexpected

- **Expected adverse events** are those that have been previously identified as resulting from administration of the agent. For the purposes of this study, an adverse event is considered expected when it appears in the current adverse event list, the Investigator's Brochure, the package insert or is included in the informed consent document as a potential risk.
- **Unexpected adverse events** are those that vary in nature, intensity or frequency from information in the current adverse event list, the Investigator's Brochure, the package insert, or when it is not included in the informed consent document as a potential risk.

Serious Adverse Event: A serious adverse event (SAE), as defined by per 21 CFR 312.32, is any adverse event that results in one of the following outcomes, regardless of causality and expectedness:

- **Results in death**
- **Is life-threatening.** Life-threatening means that the person was at immediate risk of death from the reaction as it occurred, i.e., it does not include a reaction which hypothetically might have caused death had it occurred in a more severe form.
- **Requires or prolongs inpatient hospitalization** (i.e., the event required at least a 24-hour hospitalization or prolonged a hospitalization beyond the expected length of stay).

Hospitalization admissions and/or surgical operations scheduled to occur during the study period, but planned prior to study entry are not considered SAEs if the illness or disease existed before the person was enrolled in the trial, provided that it did not deteriorate in an unexpected manner during the trial (e.g., surgery performed earlier than planned).

- **Results in persistent or significant disability/incapacity.** Disability is defined as a substantial disruption of a person's ability to conduct normal life functions.
- **Is a congenital anomaly or birth defect;** or
- **Is an important medical event** when, based upon appropriate medical judgment, it may jeopardize the participant and require medical or surgical intervention to prevent one of the outcomes listed above. Examples of such medical events include allergic bronchospasm requiring intensive treatment in an emergency room or at home; blood dyscrasias or convulsions that do not result in inpatient hospitalization, or the development of drug dependency or drug abuse.

Medical and scientific judgment should be exercised in deciding whether expected reporting is also appropriate in situations other than those listed above. For example, important medical events may not be immediately life threatening or result in death or hospitalization but may jeopardize the patient or may require intervention to prevent one of the outcomes listed in the definition above (eg, suspected transmission of an infectious agent by a medicinal product is considered a Serious Adverse Event). Any event is considered a Serious Adverse Event if it is associated with clinical signs or symptoms judged by the investigator to have a significant clinical impact.

6.3.2 BMT CTN Adverse Event Reporting Guidelines

Adverse event reporting will be consistent with BMT CTN procedures (BMT CTN Administrative Manual of Procedures, Chapter 6). It is BMT CTN policy that AEs must be reported even if the investigator is unsure whether a relationship exists between the adverse event and the use of study treatment.

Unexpected, serious adverse events (SAEs) will be reported through an expedited AE reporting system via Advantage eClinical. **Unexpected, life-threatening and fatal SAEs must be reported within 24 hours of knowledge of the event. All other unexpected SAEs must be reported within three business days of knowledge of the event.** Events entered in Advantage eClinical will be reported using NCI's Common Terminology Criteria for Adverse Events (CTCAE) Version 5.0.

Expected AEs will be reported using NCI's Common Terminology Criteria for Adverse Events (CTCAE) Version 5.0 at regular intervals as defined on the Form Submission Schedule, including calendar-driven case report forms (e.g., Toxicity and GVHD) or event-driven case report forms (e.g., Relapse/Progression, Infection, and Death). **Any expected life-threatening SAE not collected on another study form must be reported through the expedited AE reporting system via Advantage eClinical.**

The Data and Safety Monitoring Board will receive summary reports of all unexpected SAEs on a semi-annual basis.

7.0 STATISTICAL METHODOLOGY

7.1 General Guidelines

Counts and percentages will be used to describe categorical variables, while the number of subjects (N), median, mean, standard deviation, and range will be used to summarize continuous variables.

The study day for most efficacy and safety assessments will be computed in reference to the date of randomization, with the date of randomization defined as Study Day 0 for each patient. For all assessments, the (Study) Day will be calculated as (assessment date – randomization date). For outcomes where data is summarized in reference to other date, such as treatment initiation, the assessment time point will be clarified explicitly.

For all variables, the baseline value is defined as the last available measurement before randomization.

The primary null hypothesis is that the hazard ratio between PTCy/Tac/MMF and Tac/MTX for GRFS endpoint is equal to one versus an alternative hypothesis that the hazard ratio is not equal to one. A hazard ratio equal to one indicates no difference between the two treatments, while a hazard ratio less than one implies that the hazard of GRFS is lower for patients receiving PTCy/Tac/MMF compared with those in the Tac/MTX patient group. A hazard ratio greater than one would indicate an opposite treatment effect.

All statistical analyses including primary and secondary outcomes will use the ITT population unless stated otherwise. All hypothesis tests will be two-sided with a type I error rate of 5% unless stated otherwise.

All data processing, summarization, and analyses will be performed using SAS Version 9.4 or higher, or R version 4.0 or higher. Specifications for the table, figure, and data listing formats can be found in the templates created for this SAP.

7.2 Demographics and Disposition

7.2.1 Demographic and Baseline Characteristics

Demographic and baseline characteristics will be summarized using descriptive statistics. Categorical variables to be examined include age, gender, race/ethnicity, Karnofsky/Lansky performance status (<90 vs. ≥90) at transplant, primary disease at transplant, disease-specific risk categories, disease risk index (DRI), hematopoietic cell transplant comorbidity index (HCT CI), donor type and HLA matching, donor/recipient CMV status, donor/recipient sex match, donor/recipient ABO match, and conditioning regimen. If a categorical variable has missing data

for some patient(s), a “Missing” category will be included as well for that variable with its frequency and percentage. Continuous characteristics to be considered include age, time from disease diagnosis to transplant, and. If a continuous variable has missing data for some patient(s), the number missing will also be described.

7.2.2 Participant Disposition

The summary of subject disposition for the ITT population will include:

- Number and percent of patients in ITT population
- Number and percent initiating GVHD prophylaxis
- Number and percent initiating GVHD prophylaxis as randomized
- Number and percent withdrawn from study after initiating study drug
- Number and percent who completed planned study follow-up (i.e. died before 12 months or survived on study up to 12 months post-transplant)

In addition, the reasons for patients withdrawing from the study will be tabulated.

7.2.3 Protocol Deviations

The number and percentage of patients in the ITT population with any protocol deviation will be tabulated by the deviation category. A listing of all protocol deviations will be provided.

7.3 Statistical Analysis

7.3.1 Primary Endpoint – GRFS

7.3.1.1 Primary Analysis

The primary analysis will consist of a comparison of the treatment arms (PTCy/Tac/MMF vs Tac/MTX) in the ITT population using a multivariate Cox regression model. The following covariates will be included in the regression model: age, DRI, planned RIC regimen, donor type/HLA matching, and planned use of post-transplant maintenance therapy. A significance level of 0.05 (two-sided) will be used to test the null hypothesis of no difference between the treatments. Ninety-five percent confidence intervals for the hazard ratio of the PTCy/Tac/MMF treatment will also be constructed.

7.3.2 Secondary Endpoints

For analyses of secondary endpoints, adverse events will be evaluated in the safety population. All other endpoints will be evaluated in the ITT or transplant population as appropriate.

7.3.2.1 Acute GVHD

Time to acute GVHD is defined as the time from transplant until time of onset of acute grades II-IV and III-IV acute GVHD. Cumulative incidence of acute GVHD grade II-IV and grade III-IV at Days 100, 180 and 1 year will be estimated using the Aalen-Johansen estimator for each treatment group, treating death prior to aGVHD as a competing event. Cumulative incidences of Minnesota standard and high risk acute GVHD at 1 year will also be determined. 95% confidence intervals will also be constructed from this estimator using the complementary log-log transformation.

A multivariate Cox regression model for the cause-specific hazard of aGVHD will be used to compare the treatment groups, after adjustment for baseline characteristics as described for the primary endpoint. The Cox regression model will be used to evaluate the adjusted hazard ratio of treatment (PTCy/Tac/MMF vs Tac/MTX) using a point estimate and a 95% confidence interval. A corresponding adjusted Kaplan-Meier plot comparing treatment groups will be produced.

The maximum severity of acute GVHD and the proportion of patients with visceral involvement (liver or gut) through 1 year post-transplant will be tabulated by treatment arm.

7.3.2.2 Chronic GVHD

The time from transplant until the onset of chronic GVHD of any severity (mild, moderate, or severe per 2014 NIH Consensus Criteria) will be described graphically using the Aalen-Johansen estimator (Aalen and Johansen 1978), with death prior to chronic GVHD onset treated as a competing risk. Estimates of the cumulative incidence of chronic GVHD will be provided at 6 and 12 months post-transplant along with 95% CIs computed using the complementary log-log transformation.

A multivariate Cox regression model for the cause-specific hazards of cGVHD will be used to compare the treatment groups, after adjustment for baseline characteristics as described for the primary endpoint. The Cox regression model will be used to evaluate the adjusted hazard ratio of treatment (PTCy/Tac/MMF vs Tac/MTX) using a point estimate and a 95% confidence interval. A corresponding adjusted Kaplan-Meier plot comparing treatment groups will be produced.

The maximum severity of chronic GVHD through 12 months post-transplant will be tabulated by treatment arm.

7.3.2.3 Systemic Immunosuppression-Free Survival

Proportions of patients alive, relapse free, and off immune suppression at 1 year post-transplant will be described for each treatment group, along with 95% Clopper-Pearson confidence intervals. If there is substantial censoring (more than 10%) prior to one year, multistate models will be constructed to estimate these probabilities by treatment groups. Agreement between this endpoint and the primary endpoint of GRFS will be described using cross-tabulation frequencies and assessed using the Kappa statistic.

7.3.2.4 Hematologic Recovery

The time from transplant until neutrophil recovery and platelet recovery will be described graphically for each treatment arm using the Aalen-Johansen estimator (Aalen and Johansen 1978). The cumulative incidence of neutrophil recovery by Day 28 and Day 100 will be described for each treatment group with point estimates and 95% confidence intervals using the complementary log-log transformation and treating death as a competing event. Similarly, cumulative incidence estimate of platelet recovery by Day 60 and Day 100 will be described by treatment group with 95% confidence intervals (complementary log-log transformation), treating death as a competing event. These cumulative incidence curves will be compared between arms using Gray's test.

7.3.2.5 Donor Cell Engraftment

Donor chimerism at Day 28 and Day 100 after transplantation in each of the randomized treatment arms will be described numerically as the median and range among those evaluable as well as by the proportions with full (>95% donor cell), mixed (5.0-94.9% donor cells), graft rejection (<5%), or death prior to assessment of donor chimerism. Incidence of secondary graft failure (chimerism <5% after initial donor cell engraftment) will be described for each arm using frequencies. Comparisons between arms of quantitative donor chimerism will be done using Wilcoxon rank sum tests, while treatment comparisons of categorical donor chimerism groups will be done using a chi-square tests.

7.3.2.6 Disease Relapse or Progression

Disease relapse or progression is defined as being alive and free of relapse/progression of the primary disease. The time from transplant until relapse/progression of the primary disease will be described graphically for each treatment arm using the Aalen-Johansen estimator, treating death prior to disease relapse as a competing event. Estimates of disease relapse or progression at 1 year post-transplant will be provided along with 95% CIs computed using the complementary log-log transformation as detailed in Kalbfleisch and Prentice 1980. Gray's test will be used to compare disease relapse or progression within 1 year of randomization between arms.

A multivariate Cox regression model for the cause-specific hazard of relapse or progression will be used to compare the treatment groups, after adjustment for baseline characteristics as described for the primary endpoint. The Cox regression model will be used to evaluate the adjusted hazard ratio of treatment (PTCy/Tac/MMF vs Tac/MTX) using a point estimate and a 95% confidence interval. A corresponding adjusted Kaplan-Meier plot comparing treatment groups will be produced.

7.3.2.7 Treatment-Related Mortality (TRM)

The time from transplant until TRM will be described graphically for each treatment arm using the Aalen-Johansen estimator (Aalen and Johansen 1978), with numbers of subjects at risk at specific time points presented for each treatment group and relapse/progression of the primary disease treated as a competing risk. Estimates of the cumulative incidence of TRM will be

provided at Days 100, 180 and 1 year post-transplant along with 95% CIs computed using the complementary log-log transformation.

A multivariate Cox regression model for the cause-specific hazard of TRM will be used to compare the treatment groups, after adjustment for baseline characteristics as described for the primary endpoint. The Cox regression model will be used to evaluate the adjusted hazard ratio of treatment (PTCy/Tac/MMF vs Tac/MTX) using a point estimate and a 95% confidence interval. A corresponding adjusted Kaplan-Meier plot comparing treatment groups will be produced.

7.3.2.8 Adverse Events (Toxicity)

The frequency of Grade 3-5 adverse events per CTCAE version 5.0 occurring through 1 year post-transplant will be tabulated by the organ system for each treatment arm. This analysis will use the safety population.

The proportions of patients experiencing a Grade 3-5 adverse event, through 1 year post-transplantation, will be described by 95% Wilson score or Clopper-Pearson CIs and compared between treatment arms using Barnard's exact test or a chi-squared test.

7.3.2.9 Infections

The frequency of Grade 2-3 infections and the number of patients experiencing infections occurring within 1 year post-transplant, will be tabulated by treatment arm, disease site, date of onset, and severity, with Grade defined per the BMT CTN Technical MOP.

The time from transplant until the first Grade 2-3 infection will be described graphically using the Aalen-Johansen estimator, with death before infection treated as a competing risk. Provided there is sufficient data, estimates of the cumulative incidence of Grade 2-3 infection will be provided at 6 and 12 months post-transplant along with 95% CIs computed using the complementary log-log transformation. Gray's test will be used to compare the cumulative incidence of Grade 2-3 infection within 12 months of randomization between arms.

Among patients with previous CMV exposure (either donor or recipient was previously CMV positive), the cumulative incidence of initiation of systemic treatment for CMV reactivation will be described graphically using the Aalen-Johansen estimator, with death treated as a competing risk. Estimates of the cumulative incidence of CMV reactivation will be provided at Day 100 post-transplant for each arm along with 95% CIs computed using the complementary log-log transformation. Gray's test will be used to compare the cumulative incidence of CMV reactivation within 100 days of randomization between arms.

7.3.2.10 Disease-Free Survival (DFS)

DFS is defined as being alive and free of relapse/progression of the primary disease. The time from transplant until death or relapse/progression (DFS failure) will be described graphically for each treatment arm using the Kaplan-Meier estimator, with numbers of subjects at risk at specific time points presented for each treatment group. Estimates of DFS at 1 year post-transplant will be

provided along with 95% CIs computed using the complementary log-log transformation as detailed in Kalbfleisch and Prentice 1980.

A multivariate Cox regression model for the hazards of DFS will be used to compare the treatment groups, after adjustment for baseline characteristics as described for the primary endpoint. The Cox regression model will be used to evaluate the adjusted hazard ratio of treatment (PTCy/Tac/MMF vs Tac/MTX) using a point estimate and 95% confidence interval. A corresponding adjusted Kaplan-Meier plot comparing treatment groups will be produced.

7.3.2.11 Overall Survival (OS)

The time from transplant until death from any cause will be described graphically for each treatment arm using the Kaplan-Meier estimator, with numbers of subjects at risk at specific time points presented for each treatment group.

Estimates of OS at 1 year post-transplant will be provided along with 95% CIs computed using the complementary log-log transformation as detailed in Kalbfleisch and Prentice 1980.

A multivariate Cox regression model for the hazard of death will be used to compare the treatment groups, after adjustment for baseline characteristics as described for the primary endpoint. The Cox regression model will be used to evaluate the adjusted hazard ratio of treatment (PTCy/Tac/MMF vs Tac/MTX) using a point estimate and a 95% confidence interval. A corresponding adjusted Kaplan-Meier plot comparing treatment groups will be produced

7.3.2.12 Post-Transplant Lymphoproliferative Disease (PTLD)

The cumulative incidence of lymphoproliferative disease at 1-year post-transplant will be described with 95% confidence intervals for each treatment group using the Aalen-Johansen estimator, treating death as a competing event. These estimates will be compared between groups using Gray's test. This analysis will use the transplant population.

7.3.2.13 Patient-Reported Outcomes (PRO)

Patient-Reported Outcomes will be measured at baseline then at Days 100, 180 and 1 year post-transplant. All subjects with at least one post HCT PRO assessment will be incorporated within the relevant analysis, whether they completed or discontinued the study. Descriptive statistics of PROs will be provided. These will include the mean, standard deviation, number of observation, percentage missing, change and percent change from baseline, at all scheduled visits including baseline visits.

Of the three PROMIS subscales ("Health Measures: Transforming How Health Is Measured.", 2021), only physical function will be analyzed in a multivariate model. The analysis for PROMIS subscales for gastrointestinal symptoms and satisfaction with participation in social roles will be descriptive since these are based on two questions each. Additionally, the Lee chronic GHHD symptom scale (Lee et al, 2002) will be analyzed in a multivariate model.

Patterns of missing PRO data will be examined using graphical techniques and logistic regression models. At each time point, the effect of baseline characteristics as described for the primary endpoint on PROs conditional on being alive at that time point will be estimated using the inverse probability of censoring-weighted generalized estimating equations (IPCW-GEE) with independent working correlation model of Kurland and Heagerty. Multiple imputation methods may also be used ID (Schafer, 1997; Brand, 1999; Van Buuren, 2007). These methods will provide adjusted comparisons of mean PROs between treatment groups at each time point conditional on being alive at that time point.

7.4 Missing Data and Sensitivity Analysis

For time-to-event outcomes such as GRFS, TRM, OS, DFS, and relapse/progression, patients that withdraw or are lost to follow-up are assumed to be censored at random.

For other endpoints, the occurrence of missing data, whether due to the patient's missing assessment(s) or withdrawal from the study, is assumed to be *missing at random* (MAR).

7.5 Safety Analysis

All AEs and SAEs reported on the study according to the NCI Common Terminology Criteria for Adverse Events Version 5.0. The number of each type of event and number of patients affected will be described using descriptive statistics by treatment groups. These events will be reported using the safety analysis population.

7.6 Interim Analysis

The study will consist of one interim analysis for efficacy after the required total number of events is reached in all evaluable patients for the primary endpoint; the interim analysis will be reviewed by the NHLBI-appointed Data and Safety Monitoring Board (DSMB). An interim analysis for efficacy will be conducted after reaching a total of 147 events, at a 60% information fraction. The final analysis will be conducted when either the targeted number of events of 244 has occurred or all randomized patients complete 1 year of follow-up post-transplant. Policies and composition of the DSMB are described in the BMT CTN's Manual of Procedures.

Analyses will be performed as described below for the primary endpoint. At the interim analysis time point, a Z test statistic for comparing the two treatments will be compared to the critical values shown in Table 3. All patients with follow-up post randomization prior to the time of the interim analyses will be used to compute this statistic. If the test statistic is outside the continuation range, the DSMB will discuss the continuation of the trial. Should the DSMB stop the trial for efficacy, all patients receiving the inferior treatment arm will be switched to the superior treatment arm where the study will proceed until the targeted sample size for Mi-Immune is reached.

Efficacy stopping rules are based on the Wang and Tsatis boundary family with shape parameters $P=1.44$, $A=0$, $R=0$ and $G=1.9618.25$ Higher values of P , with A and R fixed at zero, and G fixed at 1.9618 will cause the group sequential test to be increasingly conservative at the earliest analyses

times. This boundary corresponds approximately to a hazard ratio less than 0.5918 or greater than 1.6898 and Z statistics less than -3.1710 or greater than 3.1710, respectively. A P-value less than 0.00152 at the interim analysis would indicate a statistically significant result.

These stopping guidelines serve as triggers for consultation with the DSMB for guidance and are not formal “stopping rules” that would mandate automatic closure of study enrollment. The monitoring scheme is detailed in section 5.3.3 of the study protocol.

7.7 Assessment of Impact of COVID-19 on Trial Results

The BMT CTN considers the COVID-19 era to have potentially impacted its trials effective March 10, 2020 unless otherwise specified. Data collection was adjusted and guidance was given to centers to track the impact of COVID-19. Specifically, the following modifications were made:

- Impact of COVID-19 on scheduled visits and assessments: Collection of information about whether visits were missed or scheduled out of the assessment window; the type of visit (clinic visit, telemedicine visit, phone contact, or combination); and if the visit was missed, what the reason for the missed visit was (which included COVID-19 as an option)
- COVID-19 infections: Guidance on the collection of COVID-19 infection occurrences was incorporated into the infection data collection form
- COVID-19 related deaths: Addition of COVID-19 as a potential primary cause of death

Summary data will be provided on visits that were missed during the COVID era and their potential attribution to COVID-related concerns. Infections and death attributed to COVID-19 will also be described by treatment arm. Sensitivity analyses will be performed for key study endpoints to evaluate the impact of COVID-19 related disruptions to study conduct on the results. Additional details will be added in a supplemental file for the SAP or described in the final analysis report.

8.0 CHANGES TO PROTOCOL-SPECIFIED ANALYSIS

The current SAP elaborates on the protocol-specified analysis and makes no deviation from it. Any future changes made to the protocol-specified analysis, and the justification for these changes, will be documented in the amendment to this SAP.

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Appendix A:
Plan Approval Signature Page
BMT CTN 1703 STATISTICAL ANALYSIS PLAN


Prepared and Accepted by:

Protocol Chair:

Signature:	<u>Mehdi Hamadani </u>	Date:	<u>07/26/2021 05:41 PM EDT</u>
Print Name:	<u>Mehdi Hamadani</u>		<u>MMDDYYYY</u>
Title:	<u>Protocol Chair - Officer</u>		
Attestation:	<u>I am approving this document.</u>		

Appendix A:
Plan Approval Signature Page
BMT CTN 1703 STATISTICAL ANALYSIS PLAN
Prepared and Accepted by:


Protocol Statistician:

Signature:	<u>Raphael Fraser </u>	Date:	<u>07/27/2021 09:44 AM EDT</u>
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Attestation:	<u>I am approving this document.</u>		

Appendix A:
Plan Approval Signature Page
BMT CTN 1703 STATISTICAL ANALYSIS PLAN

Prepared and Accepted by:

BMT CTN Statistician Leadership:

Signature:	<u><i>Brent Logan</i> </u>	Date:	<u>07/28/2021 03:43 PM EDT</u>
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Table 3. Study Enrollment Over Time

Center	Year					Total
	2019	2020	2021	2022	2023	
Center 1	XX	XX	XX	XX	XX	XX
Center 2	XX	XX	XX	XX	XX	XX
...						
Center K	XX	XX	XX	XX	XX	XX
All Centers	XX	XX	XX	XX	XX	XX

Table 4. Actual vs. Projected Enrollment

Months After Study Initiation	Projected	Cumulative Projected	Actual	Cumulative Actual
0 – 3	2	2	XX	XX
3 – 6	5	7	XX	XX
6 – 9	8	15	XX	XX
9 – 12	11	26	XX	XX
12 – 15	12	38	XX	XX
15 – 18	12	50	XX	XX
18 – 21	12	62	XX	XX
21 – 24	12	74	XX	XX
24 – 27	12	86	XX	XX
27 – 30	12	98	XX	XX
30 – 33	12	110	XX	XX
33 – 36	12	122	XX	XX

Figure 2. Accrual Vs. Projected Enrollment

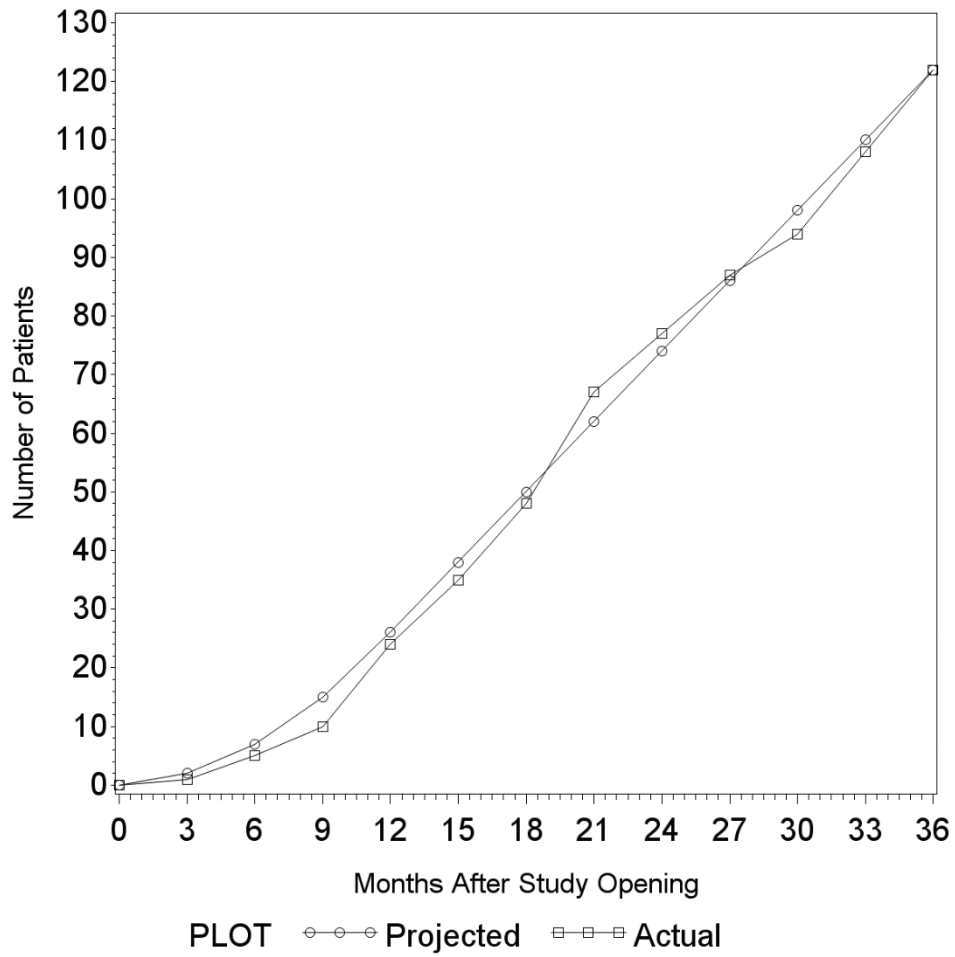


Table 5. Analysis Populations

Analysis Set	N	Description
Intention-to-Treat (ITT)	XX	All randomized patients are included in this set, classified by their randomized treatment assignments. All randomized subjects are included, regardless of whether the assigned study treatment was truly administered.
Transplant	XX	The transplant population will include all subjects who have received a transplant after randomization. This population is a subset of the ITT population.
Safety Analysis	XX	<p>The safety analysis population is comprise of all subjects “as treated” in the study. This population will be used for the analysis of safety data. The “as treated” population consists of all randomized patients who received a HCT with one of the two randomized GVHD prophylaxis regimens. Patients will be included in the treatment group corresponding to the study treatment (GVHD prophylaxis) they actually received for the analysis of safety data using the “as treated” population. For most patients this will be the treatment group to which they are randomized.</p> <p>Reasons for Not Receiving Study Drug:</p> <p>Reason 1 (N=X)</p> <p>Reason 2 (N=X)</p> <p>...</p>

Table 6. Demographic and Baseline Characteristics

Variable	Treatment Arm		Total (N=XXX) N (100%)
	PTCy/Tac/ MMF (N=XX) N (XX.X%)	Tac/MTX (N=XX) N (XX.X%)	
Gender			
Male	XX (XX.X)	XX (XX.X)	XX (XX.X)
Female	XX (XX.X)	XX (XX.X)	XX (XX.X)
Ethnicity			
Hispanic or Latino	XX (XX.X)	XX (XX.X)	XX (XX.X)
Not Hispanic or Latino	XX (XX.X)	XX (XX.X)	XX (XX.X)
Unknown			
Not Answered			
Race			
American Indian/Alaska Native	XX (XX.X)	XX (XX.X)	XX (XX.X)
Asian	XX (XX.X)	XX (XX.X)	XX (XX.X)
Hawaiian/Pacific Islander	XX (XX.X)	XX (XX.X)	XX (XX.X)
Black or African American	XX (XX.X)	XX (XX.X)	XX (XX.X)
White	XX (XX.X)	XX (XX.X)	XX (XX.X)
More than One Race	XX (XX.X)	XX (XX.X)	XX (XX.X)
Other, Specify	XX (XX.X)	XX (XX.X)	XX (XX.X)
Unknown	XX (XX.X)	XX (XX.X)	XX (XX.X)
Not Answered	XX (XX.X)	XX (XX.X)	XX (XX.X)
Age (years)			
Median (range)	XX.X (XX.X, XX.X)	XX.X (XX.X, XX.X)	XX.X (XX.X, XX.X)
Mean (SD)	XX.X (XX.X)	XX.X (XX.X)	XX.X (XX.X)
18-65	XX (XX.X)	XX (XX.X)	XX (XX.X)
65 or Older	XX (XX.X)	XX (XX.X)	XX (XX.X)
Karnofsky / Lansky Performance Score			
At least 90	XX (XX.X)	XX (XX.X)	XX (XX.X)
Less Than 90	XX (XX.X)	XX (XX.X)	XX (XX.X)
Primary Disease			

Table 6. Demographic and Baseline Characteristics (CONT'D)

Variable	PTCy/Tac/ MMF (N=XX) N (XX.X%)	Tac/MTX (N=XX) N (XX.X%)	Total (N=XXX) N (100%)
Acute Myelogeneous Leukemia	XX (XX.X)	XX (XX.X)	XX (XX.X)
Acute Lymphoblastic Leukemia	XX (XX.X)	XX (XX.X)	XX (XX.X)
Chronic Myelogeneous Leukemia	XX (XX.X)	XX (XX.X)	XX (XX.X)
Chronic Lymphocytic Leukemia			
Myelodysplastic Syndrome	XX (XX.X)	XX (XX.X)	XX (XX.X)
Follicular Lymphoma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Diffuse Large B-Cell Lymphoma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Mantle Cell Lymphoma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Marginal B-cell Cell Lymphoma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Hodgkin's Lymphoma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Lymphoma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Lymphoproliferative Disease	XX (XX.X)	XX (XX.X)	XX (XX.X)
Multiple Myeloma	XX (XX.X)	XX (XX.X)	XX (XX.X)
Myeloproliferative Neoplasm	XX (XX.X)	XX (XX.X)	XX (XX.X)
Time from Disease Diagnosis to Transplant			
Median (range)	XX.X (XX.X, XX.X)	XX.X (XX.X, XX.X)	XX.X (XX.X, XX.X)
Mean (SD)	XX.X (XX.X)	XX.X (XX.X)	XX.X (XX.X)
Disease Risk Index			
Low	XX (XX.X)	XX (XX.X)	XX (XX.X)
IM	XX (XX.X)	XX (XX.X)	XX (XX.X)
High/ Very High	XX (XX.X)	XX (XX.X)	XX (XX.X)
HCT-CI			
0	XX (XX.X)	XX (XX.X)	XX (XX.X)
1	XX (XX.X)	XX (XX.X)	XX (XX.X)
2	XX (XX.X)	XX (XX.X)	XX (XX.X)
3	XX (XX.X)	XX (XX.X)	XX (XX.X)
4+	XX (XX.X)	XX (XX.X)	XX (XX.X)
HLA Match and Donor Type			
Matched Related Donor (6/6)	XX (XX.X)	XX (XX.X)	XX (XX.X)
Matched Unrelated Donor (8/8)	XX (XX.X)	XX (XX.X)	XX (XX.X)

Table 6. Demographic and Baseline Characteristics (CONT'D)

Variable	PTCy/Tac/ MMF (N=XX) N (XX.X%)	Tac/MTX (N=XX) N (XX.X%)	Total (N=XXX) N (100%)
Mismatched Unrelated Donor (7/8)	XX (XX.X)	XX (XX.X)	XX (XX.X)
Donor/Recipient CMV Status			
Pos/Pos	XX (XX.X)	XX (XX.X)	XX (XX.X)
Pos/Neg	XX (XX.X)	XX (XX.X)	XX (XX.X)
Neg/Pos	XX (XX.X)	XX (XX.X)	XX (XX.X)
Neg/Neg	XX (XX.X)	XX (XX.X)	XX (XX.X)
Donor/Recipient Sex Match			
M-M	XX (XX.X)	XX (XX.X)	XX (XX.X)
M-F	XX (XX.X)	XX (XX.X)	XX (XX.X)
F-M	XX (XX.X)	XX (XX.X)	XX (XX.X)
F-F	XX (XX.X)	XX (XX.X)	XX (XX.X)
Donor/Recipient ABO Match			
Match	XX (XX.X)	XX (XX.X)	XX (XX.X)
Minor Match	XX (XX.X)	XX (XX.X)	XX (XX.X)
Bidirectional Mismatch	XX (XX.X)	XX (XX.X)	XX (XX.X)
Major Mismatch	XX (XX.X)	XX (XX.X)	XX (XX.X)
Planned RIC Regimen			
Flu + Bu	XX (XX.X)	XX (XX.X)	XX (XX.X)
Flu + Mel	XX (XX.X)	XX (XX.X)	XX (XX.X)
Flu + Cy	XX (XX.X)	XX (XX.X)	XX (XX.X)
Flu + TBI	XX (XX.X)	XX (XX.X)	XX (XX.X)
Flu + Cy + TBI	XX (XX.X)	XX (XX.X)	XX (XX.X)
Planned Post-Transplant Maintenance Therapy			
No	XX (XX.X)	XX (XX.X)	XX (XX.X)
Yes	XX (XX.X)	XX (XX.X)	XX (XX.X)
Tyrosine Kinase Inhibitor	XX (XX.X)	XX (XX.X)	XX (XX.X)
FLT3 Inhibitor	XX (XX.X)	XX (XX.X)	XX (XX.X)
Monoclonal Antibody	XX (XX.X)	XX (XX.X)	XX (XX.X)
Clinical Trial	XX (XX.X)	XX (XX.X)	XX (XX.X)
Other	XX (XX.X)	XX (XX.X)	XX (XX.X)

Table 7. Primary Analysis—Multivariate Cox PH Model for Hazard of GRFS

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Table 8. Sensitivity Analysis #1 Re COVID-19

Variable	N	# Events	Hazard Ratio	95% CI	p-value

Table 9. Sensitivity Analysis #2 Re COVID-19

Variable	N	# Events	Hazard Ratio	95% CI	p-value

Figure 3. GVHD/Relapse or Progression-Free Survival (GRFS)

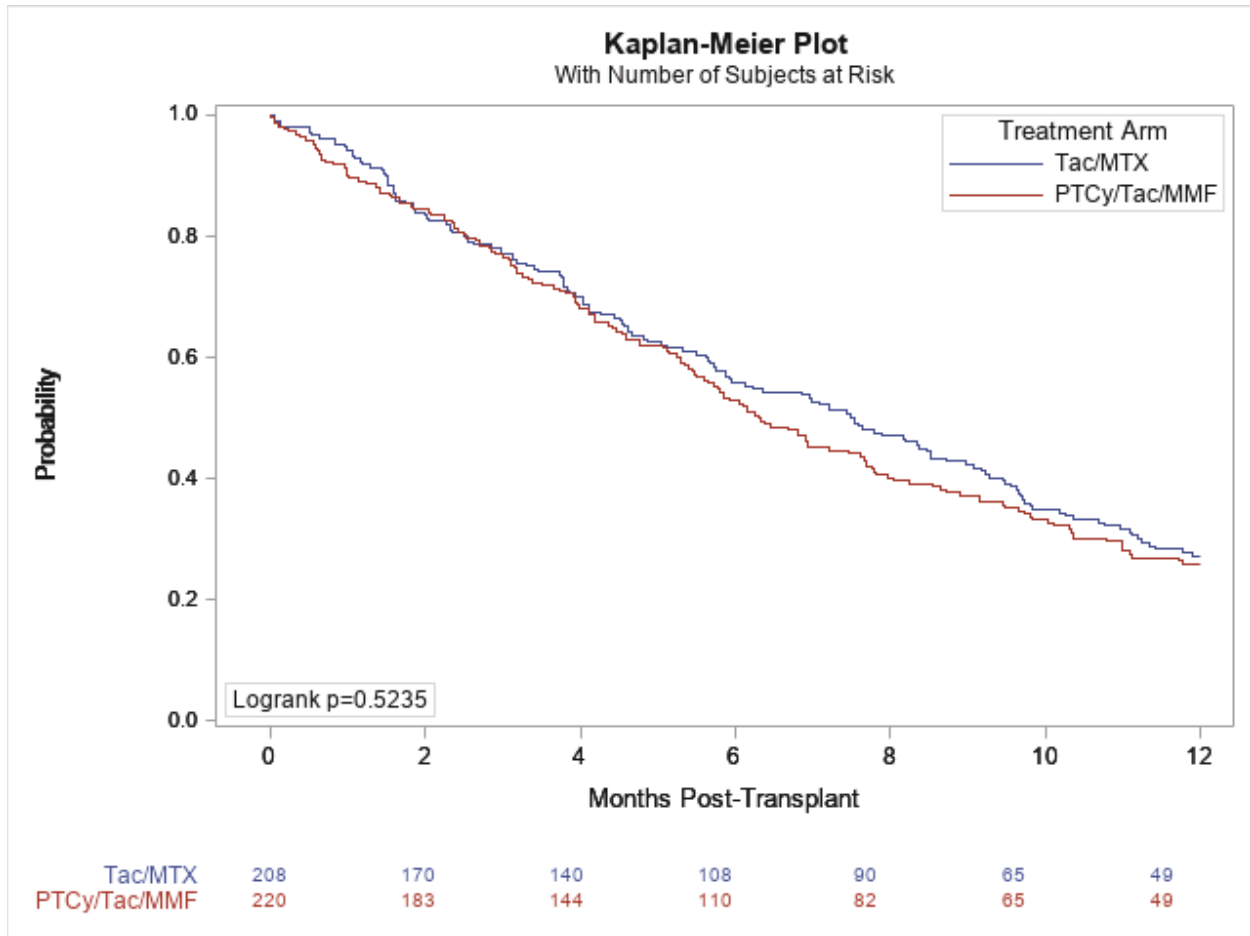


Figure 4. Acute GVHD Grade II-IV

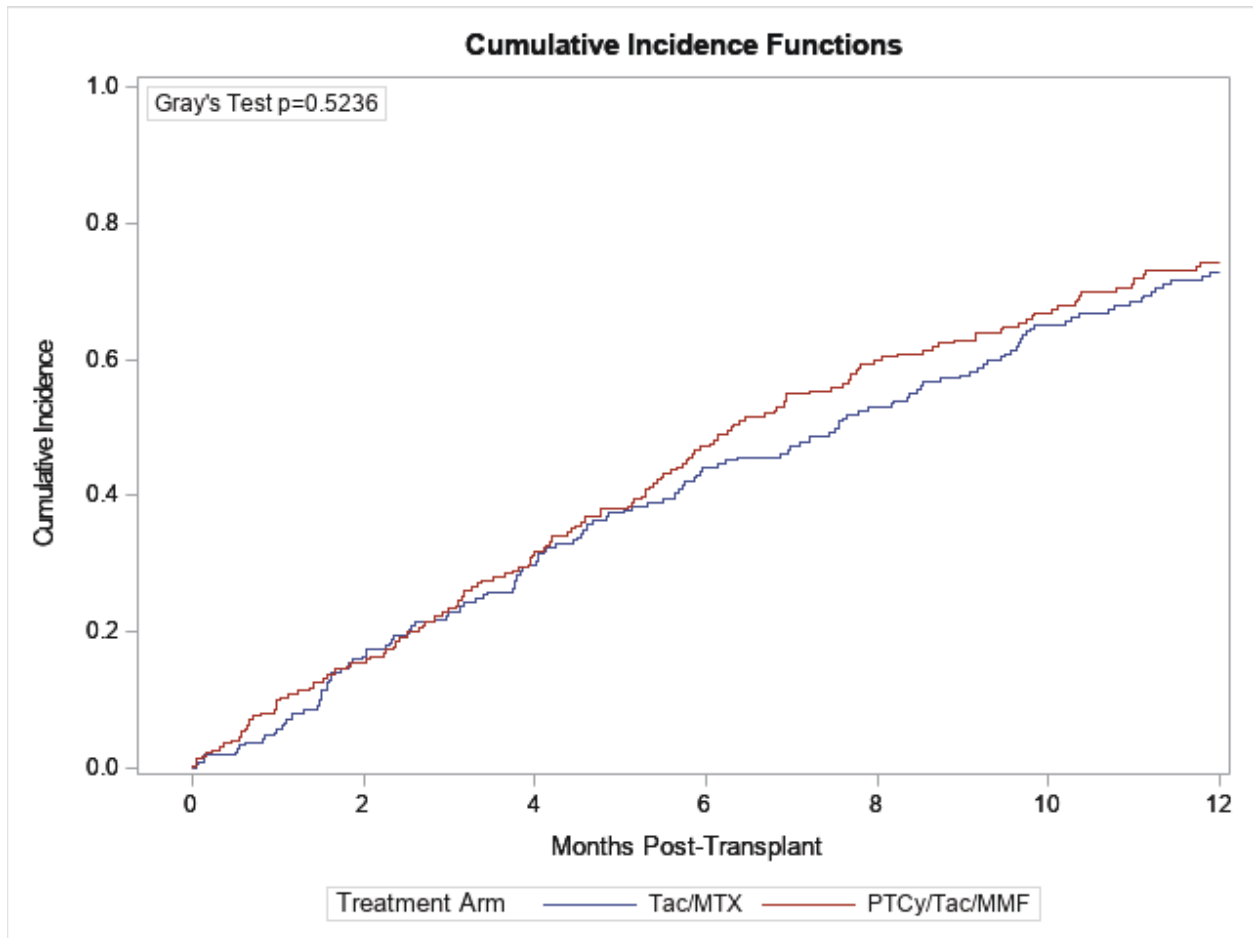


Figure 5. Acute GVHD Grade III-IV

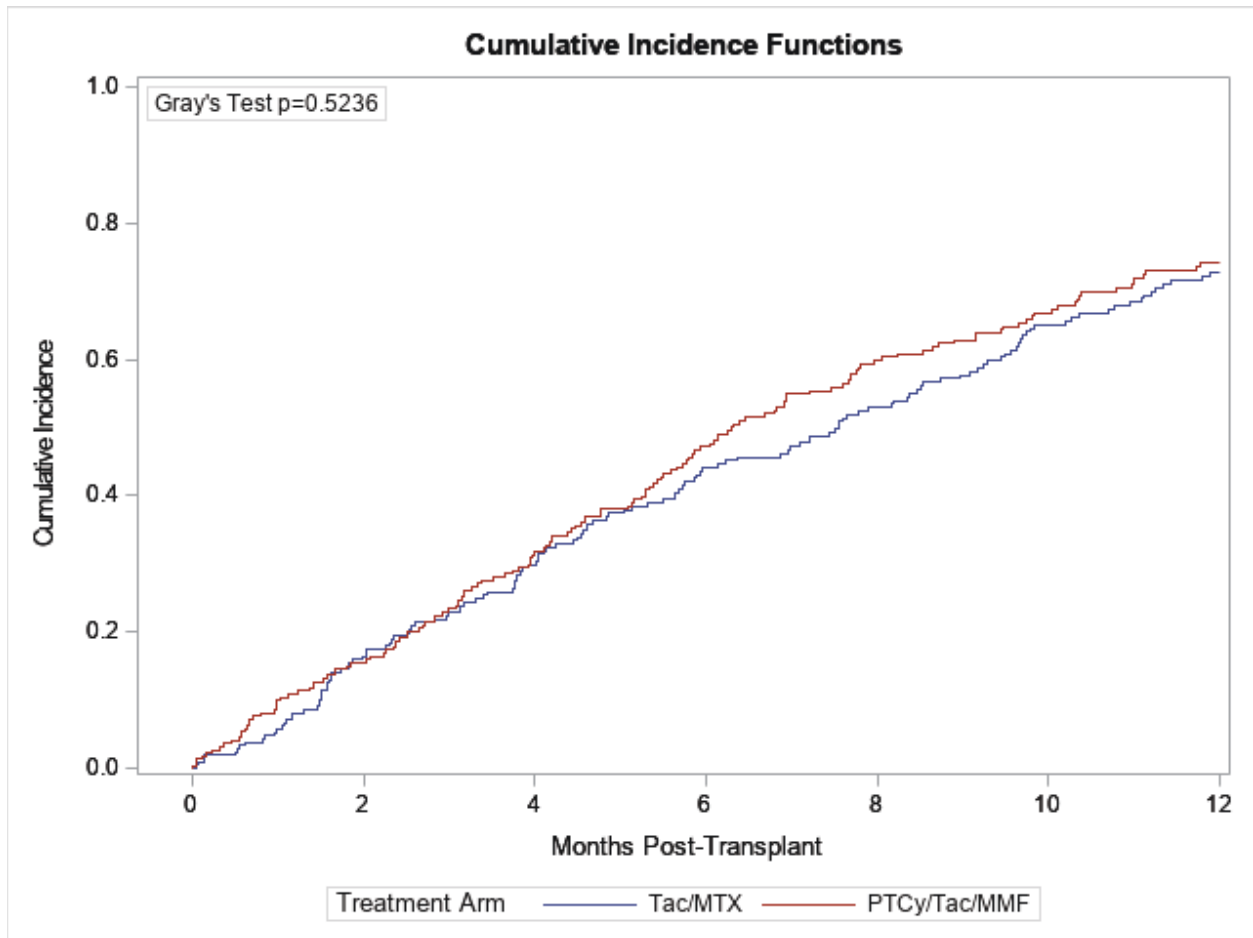


Table 10. Cumulative Incidence of Acute GVHD

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Events	Estimate	95% CI	# Events	Estimate	95% CI
MAGIC aGVHD Grade II-IV						
Day 100	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
Day 180	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
MAGIC aGVHD Grade III-IV						
Day 100	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
Day 180	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 11. Cumulative Incidences of Minnesota Acute GVHD

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Events	Estimate	95% CI	# Events	Estimate	95% CI
Standard risk aGVHD						
Day 100	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
Day 180	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
High risk aGVHD						
Day 100	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
Day 180	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 12. Acute GVHD Summary

Variable	Treatment Arm		Total N=XXX (XX.X%)
	PTCy/Tac/MMF N=XXX (XX.X%)	Tac/MTX N=XXX (XX.X%)	
MAGIC Acute GVHD Maximum Grade			
I	XX (XX.X)	XX (XX.X)	XX (XX.X)
II	XX (XX.X)	XX (XX.X)	XX (XX.X)
III	XX (XX.X)	XX (XX.X)	XX (XX.X)
IV	XX (XX.X)	XX (XX.X)	XX (XX.X)
MAGIC Acute GVHD Skin Stage			
0	XX (XX.X)	XX (XX.X)	XX (XX.X)
1	XX (XX.X)	XX (XX.X)	XX (XX.X)
2	XX (XX.X)	XX (XX.X)	XX (XX.X)
3	XX (XX.X)	XX (XX.X)	XX (XX.X)
4	XX (XX.X)	XX (XX.X)	XX (XX.X)
MAGIC Acute GVHD Upper GI Stage			
0	XX (XX.X)	XX (XX.X)	XX (XX.X)
1	XX (XX.X)	XX (XX.X)	XX (XX.X)
MAGIC Acute GVHD Lower GI Stage			
0	XX (XX.X)	XX (XX.X)	XX (XX.X)
1	XX (XX.X)	XX (XX.X)	XX (XX.X)
2	XX (XX.X)	XX (XX.X)	XX (XX.X)
3	XX (XX.X)	XX (XX.X)	XX (XX.X)
4	XX (XX.X)	XX (XX.X)	XX (XX.X)
MAGIC Acute GVHD Liver Stage			
0	XX (XX.X)	XX (XX.X)	XX (XX.X)
1	XX (XX.X)	XX (XX.X)	XX (XX.X)
2	XX (XX.X)	XX (XX.X)	XX (XX.X)
3	XX (XX.X)	XX (XX.X)	XX (XX.X)
4	XX (XX.X)	XX (XX.X)	XX (XX.X)

Table 13. Acute GVHD—Cox PH Model

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Figure 6. Chronic GVHD

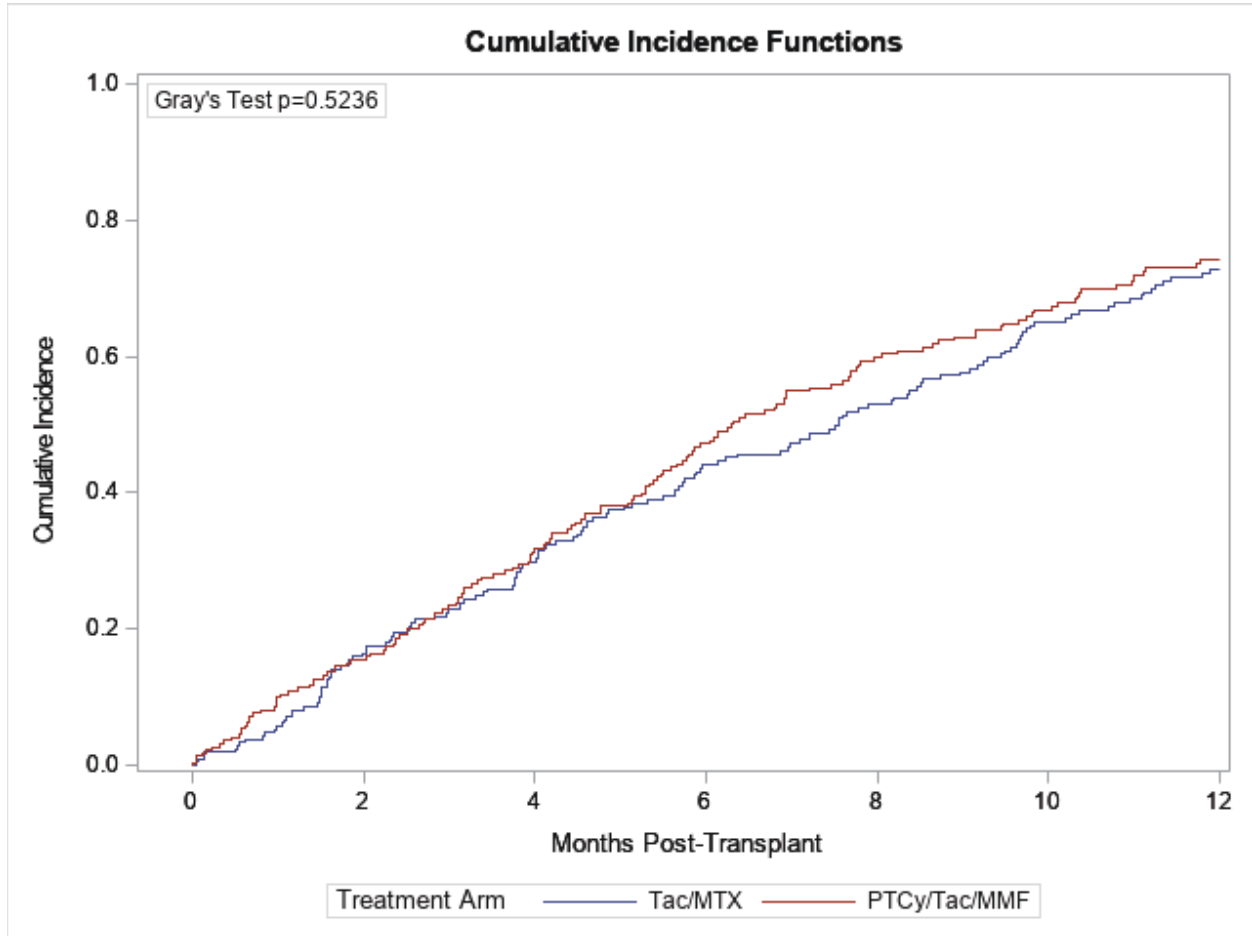


Table 14. Cumulative Incidence of Chronic GVHD

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Events	Estimate	95% CI	# Events	Estimate	95% CI
6 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 15. Chronic GVHD—Cox PH Model

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Table 16. Maximum Severity of Chronic GVHD through 12 Months Post-transplant

Maximum Chronic GVHD Severity	PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)	
	N	%	N	%
None	XX	XX.X	XX	XX.X
Mild	XX	XX.X	XX	XX.X
Moderate	XX	XX.X	XX	XX.X
Severe	XX	XX.X	XX	XX.X

Table 17. Systemic Immunosuppression-Free Survival at 12 Months Post-Transplant

Treatment Arm	N	# Events	Estimate	95% CI
PTCy/Tac/MMF	XXX	XX	XX.X%	(XX.X%, XX.X%)
Tac/MTX	XXX	XX	XX.X%	(XX.X%, XX.X%)

Table 18. Measure of Agreement between GRFS Events and Systemic Immunosuppression-Free Survival

Treatment Arm	N	Kappa Coefficient	95% CI
PTCy/Tac/MMF	XXX	0.XXX	(0.XXX, 0.XXX)
Tac/MTX	XXX	0.XXX	(0.XXX, 0.XXX)

Figure 7. Cumulative Incidence of Neutrophil Recovery

Note: Label on the horizontal axis should be “Days Post-transplant” range 0 to 100.

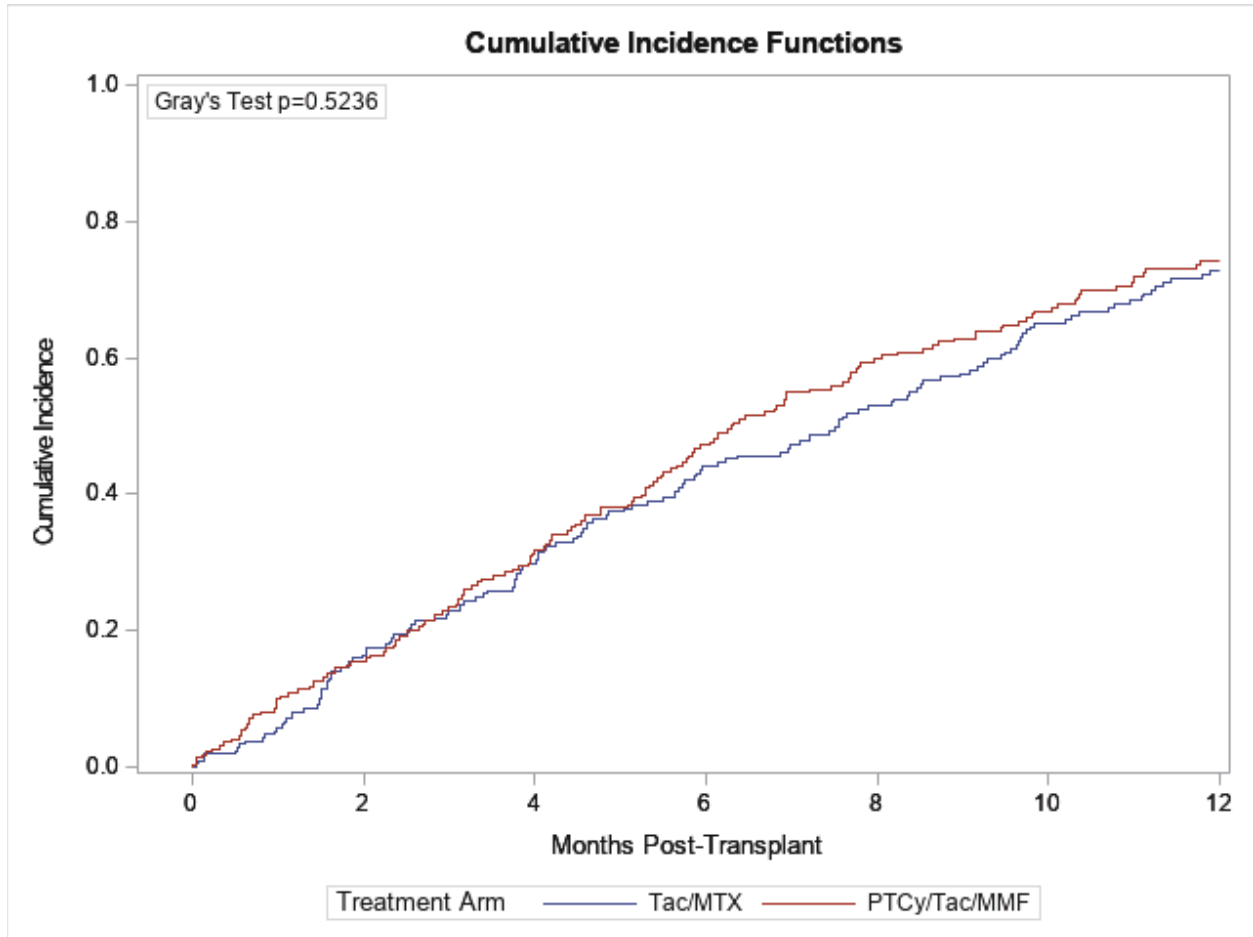


Figure 8. Cumulative Incidence of Platelet Recovery

Note: Label on the horizontal axis should be “Days Post-transplant” range 0 to 100.

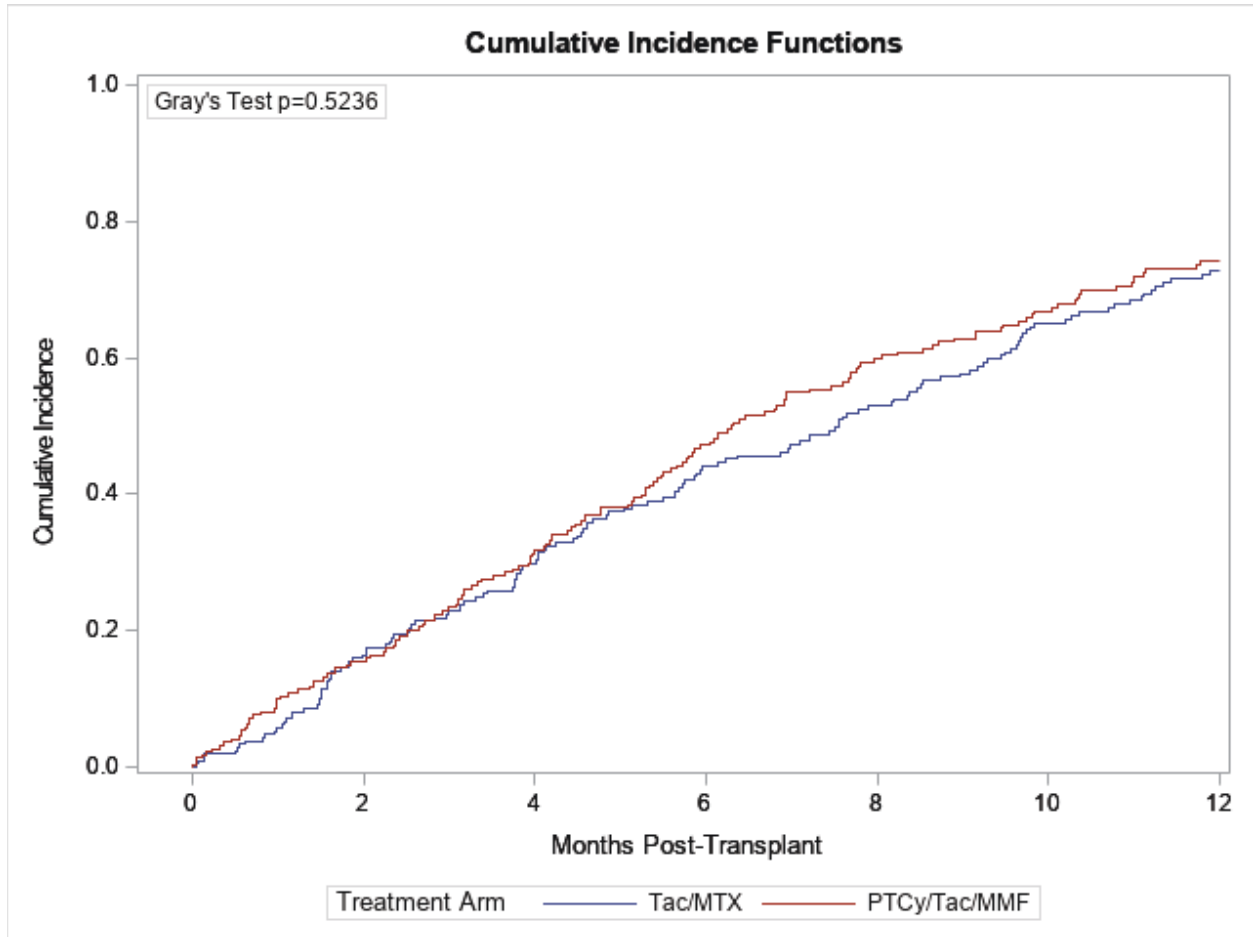


Table 19. Probability of Neutrophil Recovery

	PTCy/Tac/MMF (N=XXX)	Tac/MTX (N=XXX)
Assessment Time	Probability of Neutrophil Recovery (95% CI)	Probability of Neutrophil Recovery (95% CI)
Day 28	XX.X% (XX.X%, XX.X%)	XX.X% (XX.X%, XX.X%)
Day 100	XX.X% (XX.X%, XX.X%)	XX.X% (XX.X%, XX.X%)

Table 20. Probability of Platelet Recovery

	PTCy/Tac/MMF (N=XXX)	Tac/MTX (N=XXX)
Assessment Time	Probability of Platelet Recovery (95% CI)	Probability of Platelet Recovery (95% CI)
Day 60	XX.X% (XX.X%, XX.X%)	XX.X% (XX.X%, XX.X%)
Day 100	XX.X% (XX.X%, XX.X%)	XX.X% (XX.X%, XX.X%)

Table 21. Probability of Lymphocyte Recovery

	PTCy/Tac/MMF (N=XXX)	Tac/MTX (N=XXX)
Assessment Time	Probability of Lymphocyte Recovery (95% CI)	Probability of Lymphocyte Recovery (95% CI)
Day 60	XX.X% (XX.X%, XX.X%)	XX.X% (XX.X%, XX.X%)
Day 100	XX.X% (XX.X%, XX.X%)	XX.X% (XX.X%, XX.X%)

Table 22. Donor Cell Engraftment

Assessment Time	Day 28			Day 100			Total
	Treatment Arm		P-value	Treatment Arm		P-value	
	PTCy/Tac/MMF (N=XXX)	Tac/MTX (N=XXX)		PTCy/Tac/MMF (N=XXX)	Tac/MTX (N=XXX)		
Chimerism							
Full (>95% Donor Cells)	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)
Mixed (5-95% Donor Cells)	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)
Graft Rejection (<5% Donor Cells)	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)
Death Prior To Assessment	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)	XX (XX.X%)	0.XXX	XX (XX.X%)

Table 23. Incidence of Secondary Graft Failure

	Treatment Arm		P-value
	PTCy/Tac/MMF (N=XXX)	Tac/MTX (N=XXX)	
Incidence of Secondary Graft Failure	XX (XX.X%)	XX (XX.X%)	0.XXX

Table 24. Relapse/Progression—Cox PH Model

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Figure 9. Cumulative Incidence of Relapse/Progression

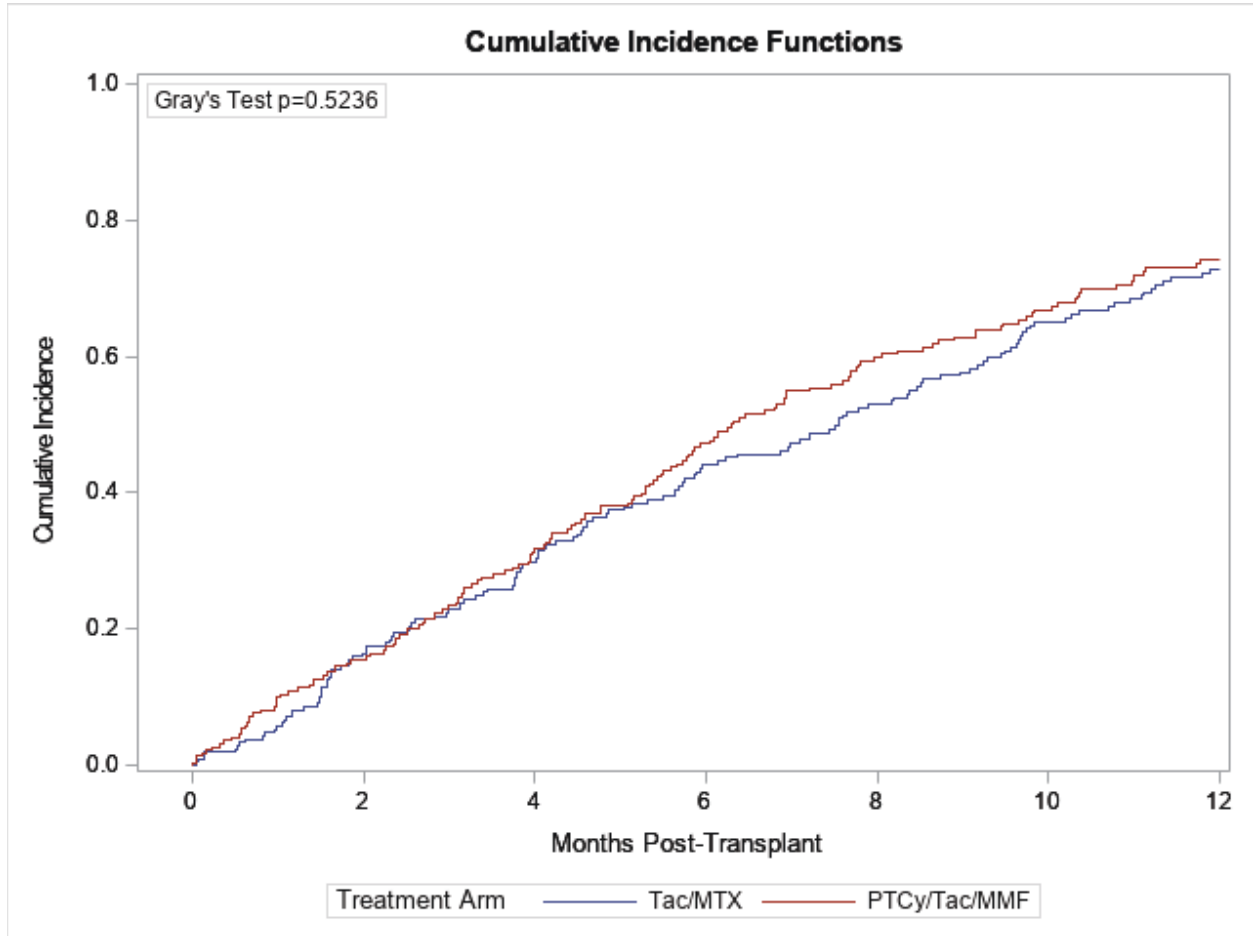


Table 25. Cumulative Incidence of Relapse/Progression

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# R/Ps	Estimate	95% CI	# R/Ps	Estimate	95% CI
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 26. Treatment-Related Mortality—Cox PH Model

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Figure 10. Cumulative Incidence of Treatment-Related Mortality

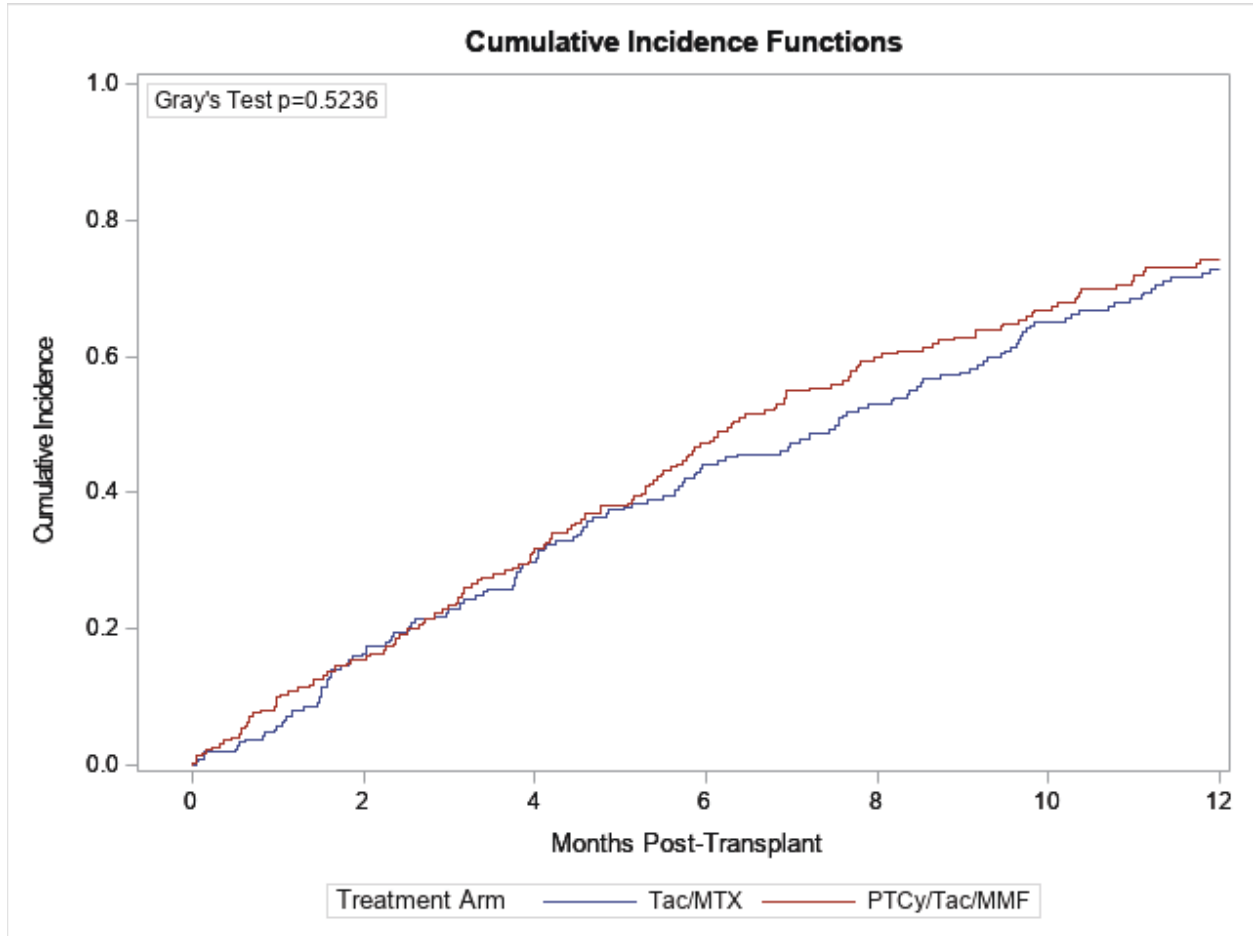


Table 27. Cumulative Incidence of Treatment-Related Mortality

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# TRMs	Estimate	95% CI	# TRMs	Estimate	95% CI
Day 100	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
Day 180	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 28. Adverse Events (AEs) Occurring Through 12 Months Post-Transplant by System Organ Class

	PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)	
	# Events (%)	# Participants Affected (%)	# Events (%)	# Participants Affected (%)
System Organ Class¹				
Class 1	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Class 2	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
...	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Class K	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)

¹ Classified per MedDRA coding.

Table 29. Adverse Events (AEs) Occurring Through 12 Months Post-Transplant

PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)		p-value ¹
# Participants Affected	% Participants Affected (95% CI)	# Participants Affected	% Participants Affected (95% CI)	
XX	XX.X% (XX.X%, XX.X%)	XX	XX.X% (XX.X%, XX.X%)	0.xxx

Table 30. Adverse Events Summary Through 12 Months Post-Transplant

Adverse Events – Number of Participants Affected				
Category	PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)	
	N	%	N	%
Adverse Events (AEs)	XX	XX.X	XX	XX.X
Severe Adverse Events (SAEs)	XX	XX.X	XX	XX.X

Table 31. Adverse Events Reported Through 12 Months Post-Transplant

System Organ Class	Preferred Term	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
		# Events	Participants Affected	% of participants	# Events	Participants Affected	% of participants
SOC #1	Category 1	XX	XX	XX.X	XX	XX	XX.X
	Category 2	XX	XX	XX.X	XX	XX	XX.X
	...						
	Category K	XX	XX	XX.X	XX	XX	XX.X
SOC #2	Category 1	XX	XX	XX.X	XX	XX	XX.X
	Category 2	XX	XX	XX.X	XX	XX	XX.X
	...						
	Category K	XX	XX	XX.X	XX	XX	XX.X
...							
Total		XX	XX	XX.X	XX	XX	XX.X

Table 32. Severe Adverse Events Reported Through 12 Months Post-Transplant

System Organ Class	Preferred Term	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
		# Events	Participants Affected	% of participants	# Events	Participants Affected	% of participants
SOC #1	Category 1	XX	XX	XX.X	XX	XX	XX.X
	Category 2	XX	XX	XX.X	XX	XX	XX.X
	...						
	Category K	XX	XX	XX.X	XX	XX	XX.X
SOC #2	Category 1	XX	XX	XX.X	XX	XX	XX.X
	Category 2	XX	XX	XX.X	XX	XX	XX.X
	...						
	Category K	XX	XX	XX.X	XX	XX	XX.X
...							
Total		XX	XX	XX.X	XX	XX	XX.X

Table 33. Toxicities Through 12 Months Post-Transplant

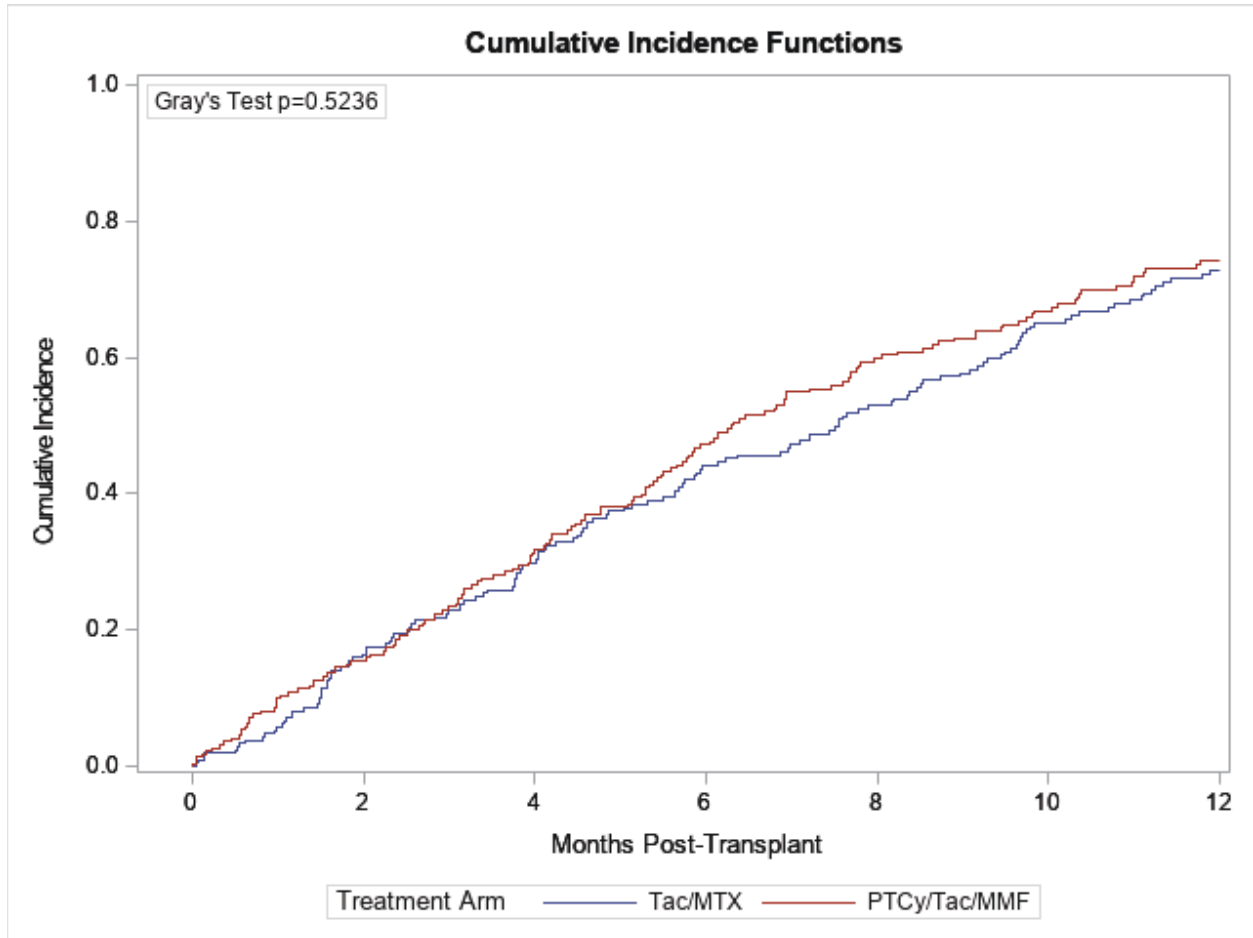
	PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)	
	N	%	N	%
Maximum Toxicity Grade				
Grade 0 - 2	XX	XX.X	XX	XX.X
Grade 3	XX	XX.X	XX	XX.X
Grade 4	XX	XX.X	XX	XX.X
Grade 5	XX	XX.X	XX	XX.X
Toxicity Type 1				
Grade 0 - 2	XX	XX.X	XX	XX.X
Grade 3	XX	XX.X	XX	XX.X
Grade 4	XX	XX.X	XX	XX.X
Grade 5	XX	XX.X	XX	XX.X
Toxicity Type 2				
Grade 0 - 2	XX	XX.X	XX	XX.X
Grade 3	XX	XX.X	XX	XX.X
Grade 4	XX	XX.X	XX	XX.X
Grade 5	XX	XX.X	XX	XX.X
...				
Toxicity Type K				
Grade 0 - 2	XX	XX.X	XX	XX.X
Grade 3	XX	XX.X	XX	XX.X
Grade 4	XX	XX.X	XX	XX.X
Grade 5	XX	XX.X	XX	XX.X

¹ Classified per CTCAE version 5.0

Table 34. Infections

	PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)	
	# Infections (%)	# Participants Affected (%)	# Infections (%)	# Participants Affected (%)
Total Number of Infections	XX (100.0%)	XX (100.0%)	XX (100.0%)	XX (100.0%)
Infection Site				
Site 1	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Site 2	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
...	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Site K	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Time of Onset Post-transplant				
000 -100 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
101 – 180 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
181 – 365 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Infection Severity				
Grade 2	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Grade 3	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)

Figure 11. Cumulative Incidence of Infections



Note: Include Grade 2 and grade 3 infections.

Table 35. Cumulative Incidence of Infections

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Events	Estimate	95% CI	# Events	Estimate	95% CI
6 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Figure 12. Disease-Free Survival (DFS)

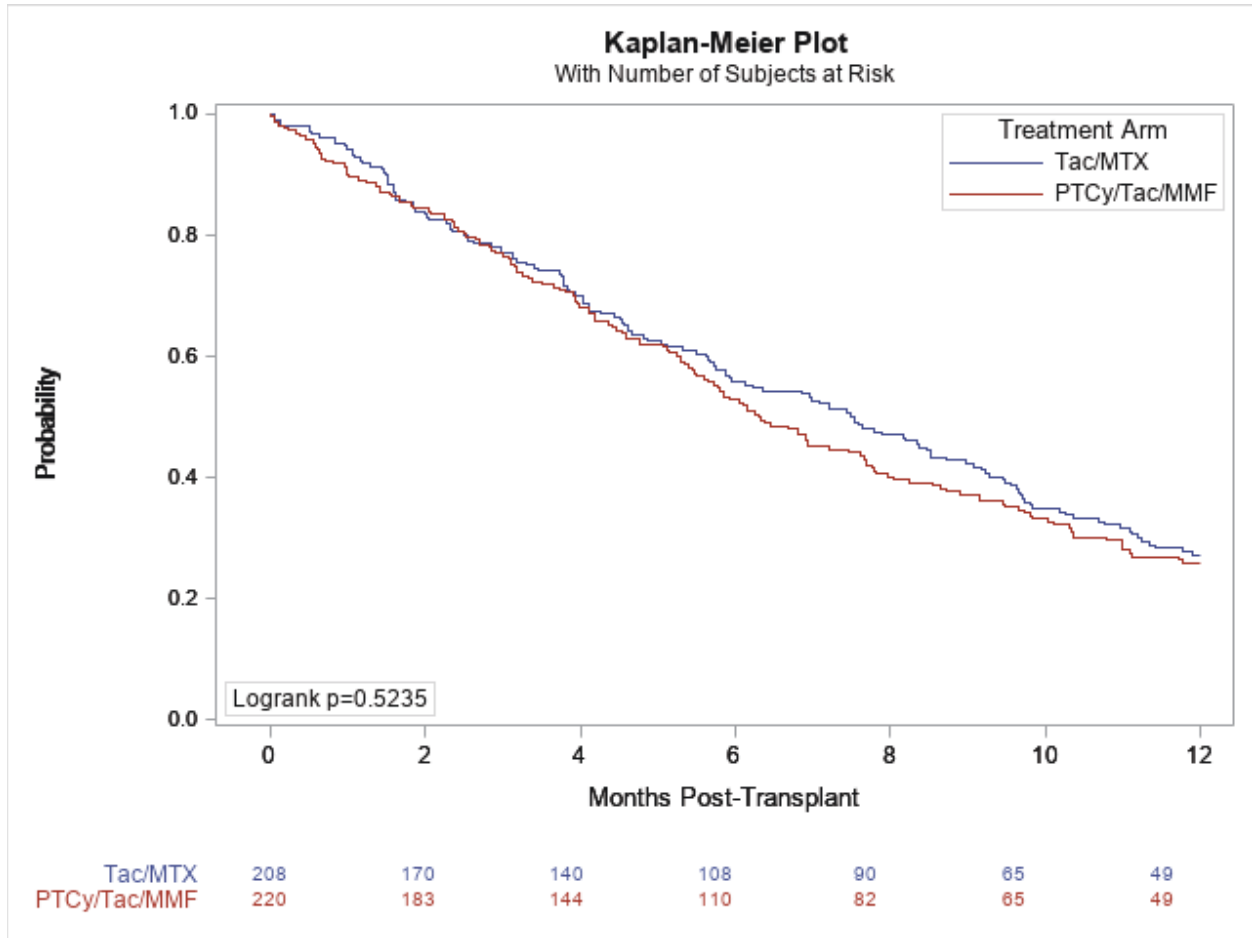


Table 36. Disease-Free Survival (DFS) Probability at 1 Year

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Events	Estimate	95% CI	# Events	Estimate	95% CI
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 37. Disease-Free Survival (DFS)—Cox PH Model

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Figure 13. Overall Survival (OS)

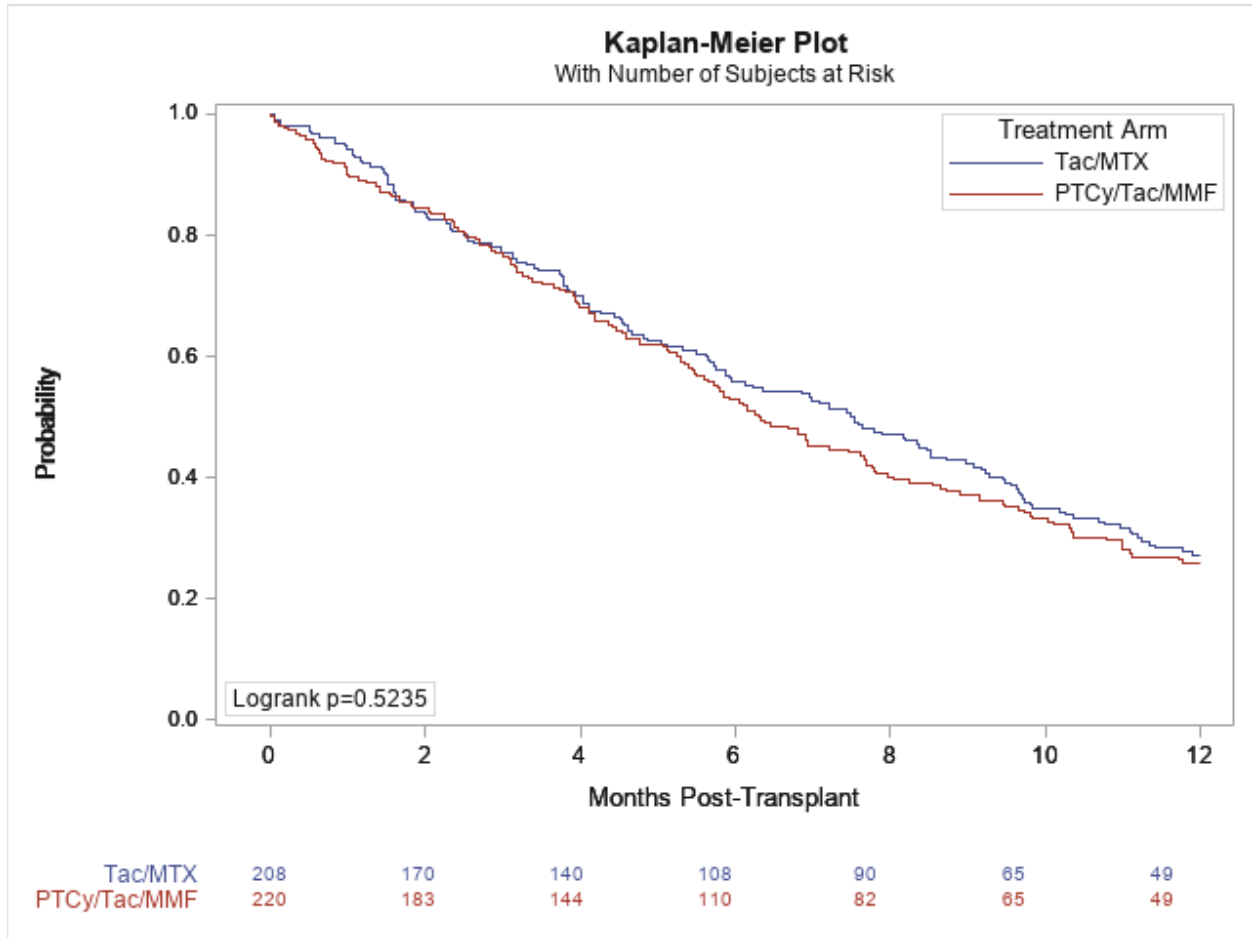


Table 38. Overall Survival (OS) Probability at 1 year

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Died	Estimate	95% CI	# Died	Estimate	95% CI
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 39. Overall Survival (OS)—Cox PH Model

Variable	N	# Events	Hazard Ratio	95% CI	p-value
Treatment Arm					0.XXX
Tac/MTX	XX	XX	1.00		
PTCy/Tac/MMF	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Disease Risk Index					0.XXX
Low	XX	XX	1.00		
IM	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
High/ Very High	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Age (years)					0.XXX
18-65	XX	XX	1.00		
65 or Older	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned RIC Regimen					0.XXX
Flu + Bu	XX	XX	1.00		
Flu + Mel	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Flu + Cy + TBI	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
HLA Match and Donor Type					0.XXX
Matched Related Donor (6/6)	XX	XX	1.00	(X.XX, X.XX)	
Matched Unrelated Donor (8/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Mismatched Unrelated Donor (7/8)	XX	XX	X.XX	(X.XX, X.XX)	0.XXX
Planned Post-Transplant Maintenance Therapy					0.XXX
No	XX	XX	1.00	(X.XX, X.XX)	
Yes	XX	XX	X.XX	(X.XX, X.XX)	0.XXX

Figure 14. Cumulative Incidence of Post-Transplant Lymphoproliferative Disease

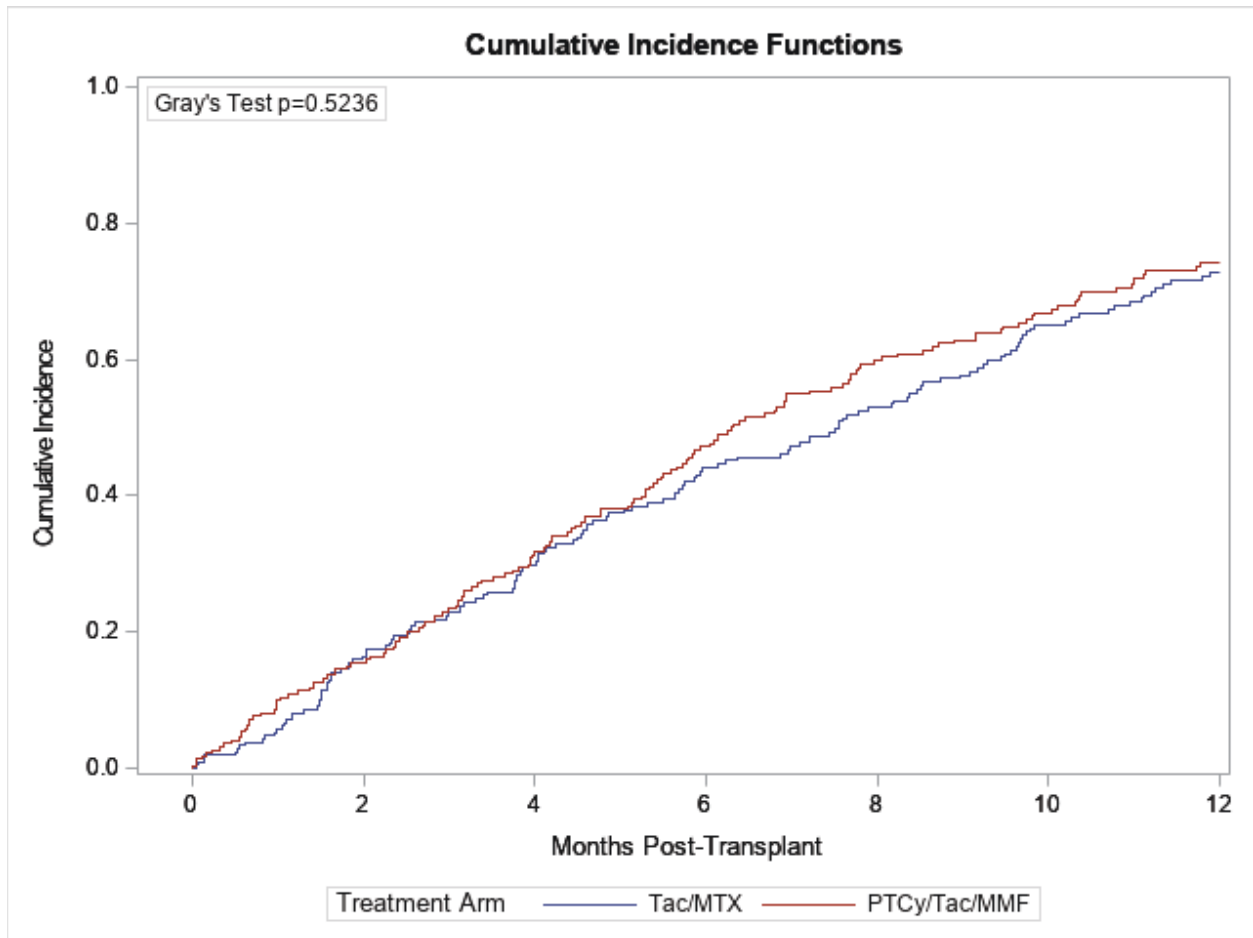


Table 40. Cumulative Incidence of PTLD at 1 Year

Assessment Time	PTCy/Tac/MMF (N=XXX)			Tac/MTX (N=XXX)		
	# Events	Estimate	95% CI	# Events	Estimate	95% CI
12 Months	XX	XX.X%	(XX.X%, XX.X%)	XX	XX.X%	(XX.X%, XX.X%)

Table 41. Patient-Reported Outcomes for Hemorrhagic Cystitis

Question/Response	PTCy/Tac/MMF				Tac/MTX			
	Day 0	Day 100	Day 180	Day 365	Day 0	Day 100	Day 180	Day 365
During the past 7 days, how many days did you see blood in your urine?	N=XX	N=XX	N=XX	N=XX	N=XX	N=XX	N=XX	N=XX
No days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
1 day	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
2 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
3-5 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
6-7 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Missing	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
How often did you feel like you needed to empty your bladder right away or else you would have an accident?								
	N=XX	N=XX	N=XX	N=XX	N=XX	N=XX	N=XX	N=XX
Never	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
One time during the past 7 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
2-6 times during the past 7 days	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Often once a day	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
More than once a day	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)
Missing	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)	XX (XX.X%)

Table 42. Patient-Reported Outcomes Measurement Information System (PROMIS) Domain Scores for Gastrointestinal Symptoms

Treatment Arm	Assessment Time	N	PROMIS Domain T-score			
			Mean	Median	Interquartile Range	Range
PTCy/Tac/MMF (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
Tac/MTX (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)

Table 43. Patient-Reported Outcomes Measurement Information System (PROMIS) for Satisfaction with Participation in Social Roles

Treatment Arm	Assessment Time	N	PROMIS Domain T-score			
			Mean	Median	Interquartile Range	Range
PTCy/Tac/MMF (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
Tac/MTX (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)

Table 44. Patient-Reported Outcomes Scores for Chronic GVHD Symptom Scale

Treatment Arm	Assessment Time	N	cGVHD Score			
			Mean	Median	Interquartile Range	Range
PTCy/Tac/MMF (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
Tac/MTX (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)

Table 45. Patient-Reported Outcomes Measurement Information System (PROMIS) Domain Scores for Physical Function

Treatment Arm	Assessment Time	N	PROMIS Domain T-Score of Physical Function			
			Mean	Median	Interquartile Range	Range
PTCy/Tac/MMF (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
Tac/MTX (N=XXX)	Day 0	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 100	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 180	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)
	Day 365	XX	XX.X	XX.X	(XX.X, XX.X)	(XX.X, XX.X)

Table 46. IPCW-GEE Model of Change in Chronic GVHD Symptom Scale from Baseline Assuming Equal Mean Domian T-Score at Baseline (Day 0) in each Treatment Arm.

Variable	N	Parameter Estimate	95% CI	p-value
Intercept	-	XX.X	(XX.X, XX.X)	-
Assessment Time				
Day 0	XX	0.00	-	-
Day 100	XX	XX.X	(XX.X, XX.X)	0.XXX
Day 180	XX	XX.X	(XX.X, XX.X)	0.XXX
Day 365	XX	XX.X	(XX.X, XX.X)	0.XXX
Treatment by Assessment Time				
PTCy/Tac/MMF, Day 100	-	XX.X	(XX.X, XX.X)	0.XXX
PTCy/Tac/MMF, Day 180	-	XX.X	(XX.X, XX.X)	0.XXX
PTCy/Tac/MMF, Day 365	-	XX.X	(XX.X, XX.X)	0.XXX

Note: This model does not include a treatment effect, allowing us to assume equal baseline scores

Table 47. IPCW-GEE Model of Change in PROMIS Domain Physical Function T-Score from Baseline Assuming Equal Mean Domian T-Score at Baseline (Day 0) in each Treatment Arm

Variable	N	Parameter Estimate	95% CI	p-value
Intercept	-	XX.X	(XX.X, XX.X)	-
Assessment Time				
Day 0	XX	0.00	-	-
Day 100	XX	XX.X	(XX.X, XX.X)	0.XXX
Day 180	XX	XX.X	(XX.X, XX.X)	0.XXX
Day 365	XX	XX.X	(XX.X, XX.X)	0.XXX
Treatment by Assessment Time				
PTCy/Tac/MMF, Day 100	-	XX.X	(XX.X, XX.X)	0.XXX
PTCy/Tac/MMF, Day 180	-	XX.X	(XX.X, XX.X)	0.XXX
PTCy/Tac/MMF, Day 365	-	XX.X	(XX.X, XX.X)	0.XXX

Note: This model does not include a treatment effect, allowing us to assume equal baseline scores

Table 48. Primary Cause of Death

Cause of Death	PTCy/Tac/MMF (N=XXX)		Tac/MTX (N=XXX)	
	N	%	N	%
Cause 1	XX	XX.X	XX	XX.X
Cause 2	XX	XX.X	XX	XX.X
...				
Cause K	XX	XX.X	XX	XX.X
Total	XX	100.0	XX	100.0
Total Deaths	XX	XX.X	XX	XX.X
Total Enrolled	XX	100.0	XX	100.0

Figure 15. CONSORT Diagram

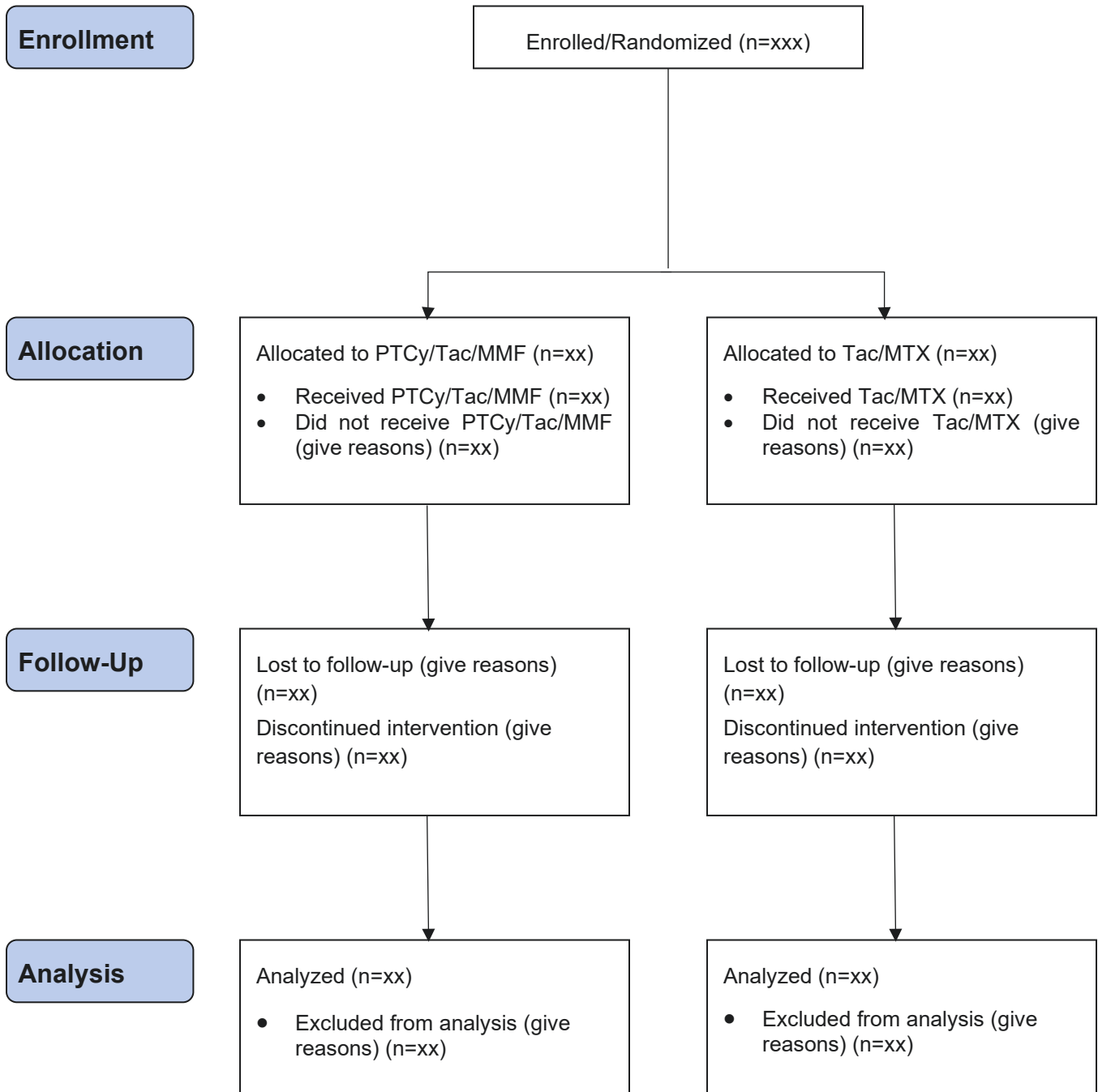


Table 49. Participant Disposition

Study Progress	PTCy/Tac/MMF (N=XX)		Tac/MTX (N=XX)	
	N	%	N	%
Intention to Treat Population				
Initiated Study Drug	XX	XX.X	XX	XX.X
Completed Study Drug as Planned	XX	XX.X	XX	XX.X
Discontinued Study Drug Treatment After Initiation	XX	XX.X	XX	XX.X
Withdrawn from Study After Initiating Study Drug	XX	XX.X	XX	XX.X
Completed Planned Study Follow-up (i.e. died before 12 months or survived on study up to 12 months post-transplant)	XX	XX.X	XX	XX.X

Table 50. Reasons That Participants Did Not Complete Study Treatment Plan and/or Withdrew from Study

Reason for Failure to Complete Study Treatment and/or Withdrawal from Study	PTCy/Tac/MMF	Tac/MTX
Reason 1	X	X
Reason 2	X	X
...		
Reason K	X	X
Total	X	X

Table 51. Significant Protocol Deviations

Center	Patient ID	Treatment Group	Deviation Description