

MINUTES AND OVERVIEW PLAN

CIBMTR WORKING COMMITTEE FOR ACUTE LEUKEMIA

Orlando, FL

Wednesday, February 15, 2023, 1:00 – 3:00 PM

Co-Chair:	Partow Kebriaei, MD; M.D. Anderson Cancer Center, Houston, TX;
	Telephone: 713- 792-8750; E-mail: pkebriae@mdanderson.org
Co-Chair:	Mark R. Litzow, MD; Mayo Clinic, Rochester, MN;
	Telephone: 206-667-4961; E-mail: litzow.mark@mayo.edu
Co-Chair:	Christopher Hourigan, MD, DPhil; National Heart Blood and Lung Institute;
	E-mail: hourigan@nih.gov
Scientific Director:	Kristin Page, MD, CIBMTR Statistical Center, Milwaukee, WI;
	E-mail: kpage@mcw.edu
Statistical Director:	Mei-Jie Zhang, PhD, CIBMTR Statistical Center, Milwaukee, WI;
	Telephone: 414-456-8375; E-mail: meijie@mcw.edu
Statistician:	TDB

1. Introduction

2. Accrual summary

The accrual summary was not presented due to time constraints but was made available to attendees as an attachment.

3. Presentations, published or submitted papers

Details regarding presentations and publications were not presented due to time constraints but were made available to attendees as an attachment.

4. Studies in progress

Details regarding the studies in progress were not presented due to time constraints but were made available to attendees as an attachment.

5. Future/proposed studies

Drs. Mark Litzow welcomed the first presenter.

A. PROP 2210-04 Prognostic Significance of Measurable Residual Disease for Patients with Acute Lymphoblastic Leukemia Undergoing Allogeneic Stem Cell Transplant in Second Complete Remission and Beyond (O Pasvolsky/ P Kebriaei) (Attachment 4)

Dr. Pasvolsky presented the proposal on behalf of the group. The group hypothesize that pretransplant MRD status is predictive of outcomes for patients with ALL receiving allo-HCT in CR2. The predictive yield might be reduced in patients transplanted in CR3 or beyond, due to early progression. The study looks to compare outcomes of patients with ALL receiving their first allo-HCT in CR2 or beyond, between those with pretransplant MRD negative and MRD positive disease status. Also, looks to examine whether the prognostic yield of pre-transplant MRD is similar for patients receiving allo- HCT at CR2 or at a later CR. Lastly, it looks to describe outcomes for this population. We identified 3410 cases receiving first allo-HCT for ALL in CR2+ from 2013 to 2019 registered in the CIBMTR database.

The floor was opened for questions and comments from the audience. A member of the audience asked if this question has not been addressed previously. Another member made a comment on the age of the cohort and asked for generalizable is the MRD collection across all centers and CIBMTR data collection forms. A member asked about how to treat the different detection thresholds among the field. A question was raised on the use of novel agents and the main effect of the study. A member suggested to restrict to the most sensitive MRD detection threshold or do a subset analysis with this.

B. PROP 2210-10/2210-270 Development of prognostic pre-transplant risk scores for patients undergoing allogeneic HCT for acute leukemia transplanted in complete remission or with relapsed/refractory disease (I Novitzky-Basso/ M Walji/ B Gyurkocza/ F Michelis) (Attachment 5)

Dr. Novitzky presented the proposal on behalf of the group. The group hypothesize that changes in standard of care, updated molecular and cytogenetic information, and novel pre- and posttransplant therapeutic interventions have impacted allogeneic HCT outcomes for patients transplanted with AL. However, the Hematopoietic Cell Transplant Comorbidity Index (HCT-CI) and other risk scores prognostic for allogeneic HCT are not disease-specific for acute myeloid leukemia (AML) or acute lymphoblastic leukemia (ALL), and do not reflect these recent developments in therapy and outcomes. Similarly, the previously published Duval score, which was specific for relapsed/refractory AL patients, likely does not reflect changes in practice and patient risk stratification. The study looks to determine the Overall Survival, Leukemia Free Survival and other outcomes. Also, looks to identify significant covariates on post transplants outcomes on this groups. Lastly, to develop a specific risk score by disease status at transplant. We identified 5616 cases receiving first allo-HCT for AML or ALL from 2013 to 2019 registered in the CRF-level track.

The proposal was opened for questions and comments. A member of the audience asked on how the group will be going to select which variables will be incorporated into the risk score modeling. Another member asked if this score will be used to decide if a patient goes to transplant or not. A suggestion was made to look at the AUC and compare with other established scores and models. A member asked how ALL and AML cohort will be treated in the score modelling since they are very different disease entities. Suggestion on create different models for each disease.

PROP 2210-25 Impact of IDH1 and IDH2 mutations on outcomes of acute myeloid leukemia patients undergoing allogeneic hematopoietic cell transplantation (S Iyer/ Y Chen) (Attachment 6)

Dr. Iyer presented the proposal concept. The group hypothesizes that there will be no difference in rates of DFS, OS, and relapse between mutated IDH1/2 AML patients undergoing HCT versus wtIDH1/2AML patients undergoing HCT. The primary objective is to identify differences in the following post-transplant outcomes between mutIDH1, mutIDH2 and wtIDH1/2patients. Also, looks to identify prognostic factors associated with post-transplant outcomes in patients with mutIDH1/2 AML. We identified 6029 cases receiving first allo-HCT for AML from 2013-2020 in the CRF track, of those 3971 cases had unknown IDH1/IDH2.

The floor was opened for questions and comments from the audience. A member of the audience asked if CIBTMR collects information on IDH1/IDH2. Another member recommended to look at the impact of Venetoclax on these patients. A member followed-up the previous question and asked on how reliable the reporting of drugs is used before transplant. A member of the audience referenced Dr. Hourigan study and asked if those panels could be used for this study. A concern was raised on a possible selection bias on the cohort that reported not tested.

D. PROP 2210-55 Comparative effectiveness study of novel agent consolidation versus allogeneic transplantation for AML in patients ≥ 75 years of age (A Artz/ P Koller) (Attachment 7)

Dr. Koller presented the proposal concept. The study hypothesizes that allo-HCT worsens short term mortality but affords longer-survival benefit relative to novel AML therapy in patients 75 years or older. The study looks to compare survival of patients ≥ 75 years with AML in first remission receiving ongoing hypomethylating therapy with or without venetoclax to patients receiving allogeneic transplantation. Also looks to outcomes at landmark periods of 1, 2 year and 3 years by treatment modality. Lastly, looks to evaluate differences in outcomes by genetic risk stratification and benchmark outcomes for AML patients 75 years and older. We identified 199 cases receiving first allo-HCT for AML in CR1 from 2016-2021 aged >=75 in the CIBMTR database.

The floor was opened for questions and comments from the audience. A member raised a concern on possible selection bias when comparing patients from VIALE vs. HCT, since the age distribution is different. A comment was made on adjusting at Age and comorbidity. Another concern was raised on possible lead-time bias when using CR1 cases and suggested using CR2 instead or do a landmark analysis to correct for the mandatory time needed to get a transplant. Another suggestion made was to investigate CR1 cases with an additional cycle of therapy or use time from diagnosis to HCT as a proxy.

E. PROP 2210-148/2210-164 Real-world evidence for brexucabtagene autoleucel in the treatment of relapsed/refractory B cell ALL in adults and analysis of factors associated with outcomes (S Manjappa/ E Bezerra/ J Gauthier/ P Kebriaei) (Attachment 8)

Dr. Manjappa presented the concept virtually on behalf of the group. The study hypothesizes that Brexu-cel as SOC is associated with inferior outcomes when compared to the Zuma-3 pivotal study and consolidative allo-HCT can improve outcomes of patients who are in remission following Brexu-cel. The study looks to describe response rates, survival outcomes (OS, PFS) and non-relapse mortality (NRM) after Brexu-Cel as SOC and compare with published data from the Zuma-3 study and describe survival outcomes and NRM of adult patients in CR after Brexu-cel with and without consolidative allo-HCT. Also looks to identify factors impacting outcomes after Brexu-Cel. We identified 83 cases receiving Brexu-Cel for ALL in 2021-2022 registered in the CIBMTR database.

The floor was opened for questions and comments from the audience. A question of cases was raised on the availability of relapse/refractory cases were MRD+ in this cohort. How many cases underwent second transplant in the cohort and how the reason for the second transplant. Concern was raised regarding the small sample size. Concern between comparisons made in the real-word data against a clinical trial.

F. PROP 2210-179 The impact of allogeneic stem cell transplantation on acute myeloid leukemia and myelodysplastic syndrome with chromosome 3 abnormalities (A Law/ T Moya) (Attachment 9)

Dr. Law presented the concept virtually to the audience. The study hypothesizes that allo-HCT does not modify outcomes in patients with acute myeloid leukemia (AML) and myelodysplastic syndrome (MDS) with chromosome 3 abnormalities. The study aims to assess outcomes in patients diagnosed with AML and MDS with chromosome 3 abnormalities undergoing Allo-HCT and to identify factors contributing to adverse outcomes in AML and MDS with chromosome 3 abnormalities undergoing Allo-HCT. We identified 733 cases receiving first allo-HCT for AML/MDS with chromosome 3 abnormality from 2008-2019 with CRF level data, which 53% were diagnosed with AML.

The session was opened for questions from the audience. A question was raised on how this data compares to EBMT, can you learn anything on it and the benefit of transplant. Another member raised a concern on disease status at transplants CR vs non-CR. How many patients went to transplant in a leukemia-free state. Another question was raised on how to analysis co-

existing chromosomal abnormalities. Another question was asked on the availability on mutational data.

G. **PROP 2210-191/2210-193** Impact of Clonal Evolution in Post-Transplantation Relapsed Myeloid Neoplasms (L Williams/ S Mirza/ L Gowda/ C Lai) (Attachment 10)

Dr. Williams presented the concept on behalf of the group. The group hypothesize that post relapse survival for patients with MDS and AML undergoing first ASCT has improved substantially and anticipate that patients with relapsed AML/MDS after ASCT harbor unique molecular and cytogenet¬¬ic changes compared to their original disease. The study looks to Overall Survival (OS) for patients with MDS and AML relapse following first or second allogeneic stem cell transplant in the modern era and describe the molecular and cytogenetic mutational landscape in AML/MDS relapse after ASCT. Also looks to identify predictors of relapse post-ASCT based on pre-transplant characteristics, determine one-year progression free survival (PFS) post relapse, characterize dynamic changes in clonal evolution (molecular and cytogenetics) at time of disease relapse compared to their original disease. Lastly determine real-world practice patterns for use of maintenance (Y/N), and the impacts of maintenance on cumulative incidence of relapse after first ASCT (stratified by disease risk group, minimal residual disease MRD status, conditioning intensity) and develop predictive model for relapse after ASCT. We identified 2184 AML patients in CR1/CR2 and 2155 MDS cases receiving first allo-HCT from 2011-2020 with relapse post-HCT.

The floor was opened for questions. A concern was raised on the difference in relapse definitions among centers. A comment was made on the hominization of relapse definition globally. A comment made on the important of characterizing relapse. A concern was raised on how relapse is capture at the CIBMTR. A comment was made on the molecular landscape and the use of maintenance therapy. A comment was made on the availability of chimerism data.

 PROP 2210-218 Prognostic Impact of Cytogenetic and Molecular Risk Classification in AML after Hematopoietic Stem Cell Transplant in Adolescents, and Young Adults (H Lust/ S Chaudhury) (Attachment 11)

Dr. Lust presented the concept. The study hypothesizes that while the cytogenetic landscape of AML in AYA patients differs from that of exclusively pediatric or older adult populations, the recently published European LeukemiaNet 2022 (ELN2022) risk stratification guidelines will predict survival and relapse risk in AYA patients receiving HSCT. Further, we hypothesize that analysis of molecular mutations that may be unique to AYA patients with AML will enhance the prognostic impact of the ELN2022 guidelines. We identified 1173 cases aged 15-39 receiving a MAC conditioned first allo-HCT for AML and 237 RIC/NMA allo-HCT having CRF-level from data 2008-2019.

The floor was opened for questions. A question was made on the availability of Molecular data and the differences among the AYA group. Another concern was made on the wide age range for AYA. A comment was made to use a dataset that also include patients that did not get a transplant. A concern was raised that this study cohort is mostly Young adults and numbers for adolescents will be too small for comparisons.

 PROP 2210-232 Outcomes of allogeneic hematopoietic cell transplantation for relapsed acute myeloid leukemia based on minimal residual disease status: CIBMTR analysis (G Murthy/ W Saber) (Attachment 12)

Dr. Murthy presented the concept. The group hypothesizes that that MRD status would significantly affect the outcomes of allogeneic hematopoietic cell transplantation (allo-HCT) for patients with relapsed acute myeloid leukemia (AML) [second complete remission (CR) or beyond] and positive minimal residual disease would be associated with higher relapse and worse survival. The study looks to compare the major clinical outcomes of allo-HCT for relapsed AML based on the MRD status. We identified 4734 MRD negative cases and 2088 MRD positive cases receiving first allo-HCT in CR2 from 2008-2019 with CRF-level information.

The floor was opened for questions and comments from the floor. A member raised a concern on the variability on MRD definitions, different cut-offs and measurements. Another member commented on the difference between of MRD among the CR1 and CR2 patients. Another member asked if in the time period proposed if there enough information on molecular data to assess MRD.

J. **PROP 2210-297** Outcomes of allogeneic transplant using higher vs. lower dose melphalan (140 mg/m2 vs. 100 mg/m2) reduced-intensity conditioning for elderly patients with acute myeloid leukemia (H Alkhateeb/ C Shultz) (Attachment 13)

Dr. Shultz presented the concept. The group hypothesizes that in elderly (age \geq 60 years) patients with AML undergoing RIC transplant, the lower dose (100 mg/m2) melphalan with fludarabine (FM100) is as beneficial as the higher dose melphalan (140 mg/m2) with fludarabine (FM140) while reducing the toxicity profile. The study aims to evaluate 3-years relapse-free survival and overall survival and other major clinical outcomes. We identified 546 cases from age >=60 receiving first allo-HCT for AML with FM100 or FM140 in 2008- 2019, CRF track.

The floor was open for questions and comments from the audience. A comment was made on analyzing the benefit of the higher melphalan dose. Any confounding factors when selecting melphalan dose. Another member commented on possible center effect among the treatment goals. The presenter proposed a match-propensity score to overcome differences confounding factors and possibly center effect.

κ. PROP 2210-26 Equal access and outcome for transplantation in AML: a 21st-century goal (N El Jurdi/ D Weisdorf) (Attachment 14)

Dr. El Jurdi presented the concept virtually while Dr. Weisdorf answered questions in-person to the audience. The group hypothesizes that access to therapy, availability of an array of suitable donors plus clinical and social comorbidities confounds outcomes for minority populations beyond the limits of their intrinsic disease biology. Social and economic factors compromise their potential for a best possible outcome. The study will analyze outcomes of allogeneic transplantation for AML as differentially influenced within HLA-based ancestry classification (1) and in self-reported racial and ethnic/ancestry subgroups. We identified 8,004 adult patients receiving first allo-HCT for AML in 2008-2019 in the United States in CIBMTR-CRF track.

The floor was open for comments and questions from the audience. A member of the audience commented on would it be possible to match this analysis. A concern was raised on the use of self-reported data. The presenter proposes to use HLA-definitions for Race/ethnicity. A concern was raised on overlap with other CIBMTR studies looking into socioeconomic predictors and components. Another member asked if education level will be accounted in the model. Another member asked if they would analyze distance to transplant center. A member raised a concern on overlap with a recent publication from the Health Services Working Committee.

Proposed studies; not accepted for consideration at this time.

- A. **PROP 2209-06** Effect of Major Residual Disease on Hematopoietic Stem Cell Transplantation: Transplant Outcomes in Patients with Primary Induction Failure
- B. **PROP 2209-08** Effects of Cytogenetic Features in TP53 mutated Myeloid Malignancies Post-Allogeneic Transplant
- c. **PROP 2209-19** Donor Lymphocyte Infusion versus Second Transplant for Relapsed MDS/AML After Allogeneic Transplant
- PROP 2210-13 Chimeric Antigen Receptor (CAR) T-cell Therapy or Allogeneic Hematopoietic
 Stem Cell Transplantation for Acute Lymphoblastic Leukemia in Measurable Residual Disease Negative Complete Remission
- E. **PROP 2210-14** Maintenance Therapy for Patients with FLT3 Mutated Acute Myeloid Leukemia After Allogeneic Hematopoietic Stem Cell Transplantation
- F. **PROP 2210-21** Evaluating Outcomes of Allogeneic Hematopoietic Cell Transplantation in Philadelphia -Like Acute Lymphoblastic Leukemia
- G. PROP 2210-31 Does Augmenting Total Body Irradiation with a Cranial or Craniospinal Boost before Stem Cell Transplantation Protect Against Post-Transplant Central Nervous System Relapse in Patients with Acute Lymphoblastic Leukemia?
- H. **PROP 2210-32** CD19+CAR-T therapy vs allogeneic HCT for poor-risk B-cell ALL with postinduction MRD positivity
- I. **PROP 2210-48** Clinical outcomes in acute leukemia patients with co-existing diagnosis of human immunodeficiency virus (HIV) after allogeneic hematopoietic cell transplantation (Allo-HCT)
- J. **PROP 2210-52** Peri-transplant use of novel FLT3 inhibitors for allogeneic stem cell transplant in Flt3 mutated acute myeloid leukaemia- CIBMTR study

- κ. PROP 2210-55 Comparative effectiveness study of novel agent consolidation versus allogeneic transplantation for AML in patients ≥ 75 years of age
- L. **PROP 2210-68** Low-intensity or chemotherapy-free regimens versus high-intensity regimens prior to allo-HCT for adults with newly diagnosed Ph+ ALL
- M. **PROP 2210-81** Outcomes of allogeneic hematopoietic cell transplantation in older patients with acute myeloid leukemia treated with hypomethylating agent and venetoclax
- N. **PROP 2210-96** Evaluation of outcomes of Donor lymphocyte Infusions with Hypomethylating agents in prophylaxis or treatment of relapse post Allogeneic Hematopoietic Cell Transplants in Acute Myeloid Leukemia and Myelodysplastic Syndromes
- O. PROP 2210-105 Comparing overall survival and progression free survival of CAR-T alone, allogenic hematopoietic stem cell transplant alone, and CAR-T before allogenic hematopoietic stem cell transplant in patients with relapsed/refractory B-cell leukemia: a retrospective analysis
- P. **PROP 2210-126** Machine learning prediction of acute myeloid leukemia (AML) relapse after allogeneic hematopoietic cell transplantation
- Q. PROP 2210-135 Real-world experience of post-allogeneic hematopoietic cell transplantation maintenance in acute myeloid leukemia and transplant outcomes
- R. **PROP 2210-136** Validation of European Leukemia Net Genetic Risk Stratification 2022 for Acute Myeloid Leukemia Patients receiving Allogeneic Hematopoietic Cell Transplantation
- s. **PROP 2210-142** Outcomes of patients with AML/MDS undergoing reduced intensity allogeneic transplantation with clofarabine- versus fludarabine-based regimens
- T. **PROP 2210-146** Impact of minimal residual disease on outcomes of allogeneic hematopoietic cell transplantation for Philadelphia chromosome negative B-cell acute lymphoblastic leukemia.
- U. **PROP 2210-161** Comparison of Post-Transplant Cyclophosphamide -based with conventional GVHD Prophylaxis for TP53 mutated Acute Myeloid Leukemia and Myelodysplastic Syndrome Patients undergoing Allogeneic Hematopoietic Cell Transplant
- v. **PROP 2210-176** Comparison of outcomes of allogeneic stem cell transplantation in age matched patients with acute myeloid leukemia and myelodysplastic syndrome after induction with Azacitidine and Venetoclax versus Intensive Chemotherapy
- w. PROP 2210-185 Allogeneic Stem Cell Transplant (Allo-SCT) Outcomes Based on Intensity of Induction therapy in Adult Patients with Philadelphia Chromosome Positive Acute Lymphoblastic Leukemia (Ph+ ALL)
- x. **PROP 2210-187** Outcomes of allogeneic hematopoietic stem cell transplantation (allo-SCT) for adult T cell leukemia-lymphoma (ATLL)
- v. **PROP 2210-195** Incidence and Outcomes of Mixed Phenotype Leukemia Patients Receiving Stem Cell Transplantation
- z. **PROP 2210-212** Comparison of transplant outcomes associated with commonly used reducedintensity conditioning regimens in patients undergoing haploidentical stem cell transplant in acute leukemia
- AA. **PROP 2210-215** Clinical Outcomes of Adults with Undergoing Allogeneic Stem Cell Transplant for secondary Acute Lymphoblastic Leukemia
- BB. **PROP 2210-230** KMT2A rearranged B- cell acute lymphoblastic leukemia post CD19 CAR-T cell therapy impact of age and allogeneic stem cell transplantation on outcomes

- cc. **PROP 2210-231** Outcomes of single antigen-mismatched unrelated 7/8 allogeneic stem cell transplantation using posttransplant cyclophosphamide in patients with acute myeloid leukemia and myelodysplastic syndrome with TP 53 mutation versus 8/8 matched unrelated donors
- DD. **PROP 2210-246** Moving Transplant Conditioning Intensity Definitions into the Future: CIBMTR Validation of the Transplant Conditioning Intensity (TCI) Classification System in Patients with Acute Leukemia and MDS
- EE. **PROP 2210-247** Donor lymphocyte infusion vs. second allogeneic hematopoietic cell transplantation for relapse after transplantation for AML/ MDS- a CIBMTR analysis
- FF. **PROP 2210-248** Outcomes of patients with B-Cell Acute Lymphoblastic Leukemia (B-ALL) undergoing Allogeneic stem cell transplant (Allo-SCT) receiving novel immunotherapy agents based on measurable residual disease (MRD) and conditioning intensity
- GG. **PROP 2210-250** Comparison of transplant outcomes associated with venetoclax-based therapy versus intensive induction therapies in patients with AML undergoing allogeneic stem cell transplant
- нн. PROP 2210-263 Inherited myeloid malignancy and donor cell leukemia
- II. **PROP 2210-265** Outcomes of Allogeneic Hematopoietic Cell Transplantation in Patients with Acute Myeloid Leukemia with a Pure Hyperdiploid Karyotype
- JJ. **PROP 2210-279** Defining the Landscape of Allogeneic Stem Cell Transplant in Relapsed Refractory Acute Lymphoblastic Leukemia
- κκ. PROP 2210-289 Role of Post Remission Consolidation Therapy Prior to Haploidentical Transplantation for Patients with Acute Myeloid Leukemia in First Complete Remission

Proposed studies; not accepted for consideration after Tandem meeting evaluations

- LL. **PROP 2210-26** Equal access and outcome for transplantation in AML: a 21st-century goal
- MM.**PROP 2210-148; 2210-164** Real-world evidence for brexucabtagene autoleucel in the treatment of relapsed/refractory B cell ALL in adults and analysis of factors associated with outcomes
- NN. PROP 2210-297 Outcomes of allogeneic transplant using higher vs. lower dose melphalan (140 mg/m2 vs. 100 mg/m2) reduced-intensity conditioning (RIC) for elderly patients with acute myeloid leukemia (AML)
- 00. **PROP 2210-191; 2210-193** Impact of Clonal Evolution in Post-Transplantation Relapsed Myeloid Neoplasms
- PP. **PROP 2210-2210; 2210-270** Development of prognostic pre-transplant risk scores for patients undergoing allogeneic HCT for acute leukemia transplanted in complete remission or with relapsed/refractory disease
- QQ. **PROP 2210-232** Outcomes of allogeneic hematopoietic cell transplantation for relapsed acute myeloid leukemia based on minimal residual disease status: CIBMTR analysis
- RR. **PROP 2210-04** Prognostic Significance of Measurable Residual Disease for Patients with Acute Lymphoblastic Leukemia Undergoing Allogeneic Stem Cell Transplant in Second Complete Remission and Beyond
- ss. **PROP 2210-25** Impact of IDH1 and IDH2 mutations on outcomes of acute myeloid leukemia patients undergoing allogeneic hematopoietic cell transplantation

6. Other business

After the proposals were presented, meeting participants had the opportunity to rate each proposal via the Tandem mobile app. Based on the voting results, current scientific merit, available number of relevant cases, and the impact of the study on the field, the following study will move forward in the committee's research portfolio for the upcoming year:

- A. **PROP 2210-179** The impact of allogeneic stem cell transplantation on acute myeloid leukemia and myelodysplastic syndrome with chromosome 3 abnormalities.
- B. **PROP 2210-218** Prognostic impact of cytogenetic and molecular risk classification in AML after hematopoietic stem cell transplant in adolescents and young adults.

Working Committee Overview Plan for 2023-2024			
Study number and title	Current status	Chairs priority	
LK19-01: Evaluating outcomes of hematopoietic cell transplantation in blastic plasmacytoid dendritic cell neoplasm	Submitted	1	
LK19-02: Evolving significance of Philadelphia chromosome status on acute lymphoblastic leukemia prognosis in the TKI era	Manuscript Preparation	1	
LK19-03: Outcomes of allogeneic transplants in acute myeloid leukemia patients who achieved first complete remission after two or more cycles of induction chemotherapy	Published	1	
LK20-01: Acute myeloid leukemia with chromosome 17 abnormalities with or without TP53 abnormalities and outcomes after hematopoietic stem cell transplantation	Data File Preparation	2	
LK20-02: Outcomes of allogeneic hematopoietic cell transplantation among germline RUNX1 mutation carriers with acute myeloid leukemia	Data File Preparation	3	
LK20-03: Evaluating outcomes of allogeneic hematopoietic cell transplantation in T-cell acute lymphoblastic leukemia	Protocol Development	2	
LK21-01: Impact of measurable residual disease status on outcomes of acute myeloid leukemia and patients 18-65 years old in first complete remission undergoing allogeneic hematopoietic cell transplantation	Analysis	1	
LK22-01: Intensive induction chemotherapy vs. hypomethylating agent therapy for older AML patients undergoing allogeneic hematopoietic cell transplantation	Protocol Development	2	
LK23-01: The impact of allogeneic stem cell transplantation on acute myeloid leukemia and myelodysplastic syndrome with chromosome 3 abnormalities.	Protocol Pending	2	
LK23-02: Prognostic impact of cytogenetic and molecular risk classification in AML after hematopoietic stem cell transplant in adolescents and young adults.	Protocol Pending	1	