

MINUTES AND OVERVIEW PLAN

CIBMTR WORKING COMMITTEE FOR INFECTION AND IMMUNE RECONSTITUTION Orlando. FL

Saturday, February 22, 2020, 12:15 – 2:15 PM

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1. Introduction

a. Welcome and introduction

Dr. Miguel-Angel Perales moderated the introduction of the working committee followed by which all the attending co-chairs and the statisticians were introduced. He welcomed Dr. Christopher Dandoy, M.D. Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio as the new chair for INWC starting March 1st, 2020, and thanked Dr. Krishna Komanduri for his excellent service to the INWC in the past 5 years.

The expectations of the meeting are to review the status of ongoing studies and timelines, and for members to assess and select proposals that will have a high impact on the field. Each proposal presentation was limited to 5 minutes to allow 10 minutes for adequate discussion. The working committee members were asked to vote on a level of scientific impact score, 1 is the highest impact and 9 is the lowest impact score for the new proposals based on the feasibility and impact to the transplant community. Due to limited statistical hours and on-going work in the INWC, one proposal will be accepted this year. The studies that are closest to submission will receive highest priority.

Dr. Perales reviewed that the working committee's membership is open to any individual willing to take an active role in study development and completion. He emphasized the rules of authorship which define the for an individual to be an author, the individual should engage and commit to substantial contributions to study concept, analysis, data interpretation, and manuscript preparation for the life cycle of the study. These include:

- 1. Revising the study draft critically for important intellectual content
- 2. Critical review of the analysis and data interpretation
- 3. Final approval of the manuscript to be published

4. Agreement to be accountable for all aspects of the project in ensuring that questions related to the accuracy of any part of the study.

The number of authors could be limited by the journal.

He reminded the working committee members that the infection data are collected only on CRF level forms and also reviewed the sources of cellular therapy data.

 Minutes and Overview Plan from February 2019 meeting The minutes and overview plan from the 2019 Tandem meeting were reviewed and approved by committee members.

2. Accrual summary

Due to the full agenda, the accrual summary of registration and research cases between 1995 and 2019 were not presented to the committee but were available as part of the Working Committee attachments. The working committee was notified of this attachment

3. Studies published/submitted/Preliminary results

Dr. Miguel-Angel Perales noted 3 papers have been published this year from INWC and 3 draft manuscripts are under preparation.

- a. IN13-01 Ustun C, Kim S, Chen M, Beitinjaneh AM, Brown VI, Dahi PB, Daly A, Diaz MA, Freytes CO, Ganguly S, Hashmi S, Hildebrandt GC, Lazarus HM, Nishihori T, Olsson RF, Page KM, Papanicolaou G, Saad A, Seo S, William BM, Wingard JR, Wirk B, Yared JA, Perales M-A, Auletta JJ, Komanduri KV, Lindemans CA, Riches ML. Increased overall and bacterial infections following myeloablative allogeneic HCT for patients with AML in CR1. Blood Advances 3(17):2525-2536, 2019. Published.
- IN14-01 Naik S, Riches M, Soyoung K, Chen M, Bachier C, Shaughnessy P, Hill J, Ljungman P, Battiwalla M, Chhabra S, Daly A, Storek J, Ustun C, Diaz MA, Cerny J, Beitinjaneh A, Yared J, Brown V, Page K, Dahi PB, Ganguly S, Seo S, Chao N, Freytes CO, Saad A, Savani BN, Ahn KW, Boeckh M, Heslop HE, Lazarus HM, Auletta JJ, Kamble RT. Survival Outcomes of Allogeneic Hematopoietic Cell Transplants with EBV positive or EBV negative Post Transplant Lymphoproliferative Disorder (PTLD), A CIBMTR Study.Submitted. Transpl Infect Dis. 2019 Oct;21(5):e13145. doi: 10.1111/tid.13145. Epub 2019 Jul 31. Published.
- c. IN16-02 Christopher E. Dandoy, MD, MS; Soyoung Kim, PhD; Min Chen, MS; Kwang Woo Ahn, PhD; Monica I. Ardura, DO, MSCS; Valerie Brown, MD, PhD; Saurabh Chhabra, MD; Miguel Angel Diaz, MD, PhD; Christopher Dvorak, MD; Nosha Farhadfar, MD; Aron Flagg, MD; Siddartha Ganguly, MD; Gregory A. Hale, MD; Shahrukh K. Hashmi, MD; Peiman Hematti, MD; Rodrigo Martino, MD; Taiga Nishihori, MD; Roomi Nusrat, MD; Richard F. Olsson, MD; Seth J. Rotz, MD; Anthony D. Sung, MD; Miguel-Angel Perales, MD; Caroline A. Lindemans, MD, PhD; Krishna V. Komanduri, MD; Marcie L. Riches, MD, MS. Incidence, Risk Factors, and Outcomes of Patients Who Develop Mucosal Barrier Injury–Laboratory Confirmed Bloodstream Infections in the First 100 Days After Allogeneic Hematopoietic Stem Cell Transplant, JAMA Netw Open. 2020;3(1):e1918668. doi:10.1001/jamanetworkopen.2019.18668. Published.
- d. **IN17-01 (a)** Incidence and Impact of Cytomegalovirus Infection in Haploidentical and Matched-Related Donors Receiving Post-Transplant Cyclophosphamide (PTCy): A CIBMTR Analysis (S Goldsmith/E Fuchs/A Bashey/S Ciurea/A Singh/ S Ganguly/R Taplitz/C Mulroney/R Maziarz/ R Romee) **2020 TCT Abstract (Oral); Manuscript preparation**

- e. **IN17-01 (b)** Incidence and impact of Non-CMV herpes viral infection in Haploidentical and Matched Sibling Donors receiving Post-transplant Cyclophosphamide (PTCy): A CIBMTR Analysis. (A Singh/E Fuchs/A Bashey/S Ciurea/S Goldsmith/S Ganguly/Randy A Taplitz/C Mulroney/R Maziarz/R Romee)**2020 TCT Abstract (Poster); Manuscript preparation**
- f. IN17-01 (c) Incidence and Impact of Community Respiratory Viral Infection (CRV) in Haploidentical and Matched Sibling Donors receiving post-transplant Cyclophosphamide (PTCy): A CIBMTR analysis (R Taplitz/R Maziarz/C Mulroney/R Romee, S Goldsmith/E Fuchs/A Bashey/S Ciurea/A Singh/S Ganguly) 2020 TCT Abstract (Oral); Manuscript preparation

4. Studies in progress

- Dr. Krishna Komanduri introduced the ongoing studies.
- a. IN18-01 Comparison of early (by day 100) infections after haploidentical HSCT between patients receiving cyclophosphamide-based or other GVHD prophylaxis (Celalettin Ustun/Genovefa Papanicolaou) Data file preparation

Dr. Marcie Riches updated the study.

Allogeneic hematopoietic cell transplant (HCT) outcomes differ between fully matched related donor transplants (MRD) and Haploidentical (HaploHCT) transplant with further differences associated with the use of post-transplant cyclophosphamide (PTCy). The study aims are: Determine the incidence and infection density of bacterial infections and fungal infections occurring within 100 days after HCT; Assess the impact of bacterial and fungal infections by day 100 on 1 year transplant outcomes(relapse, non-relapse mortality (NRM), disease free survival (DFS), overall Survival (OS) and Chronic GVHD). The committee was reminded that this will utilize the same dataset as IN 1701.

The study is going to be presented at the CIBMTR statistical meeting soon. There is no comment/question from the audience.

 IN18-02 The Incidence, and impact of Clostridium difficile infection within 100 days on Transplant outcomes after allogeneic stem cell transplant (Muthalagu Ramanathan/ Bipin Savani/ Celalettin Ustun) Data file preparation

Dr. Muthalagu Ramanathan updated the study.

The study aims are: Determine Incidence of CDI (Clostridium Difficile infection) following Allogeneic HCT; Determine Impact of CDI on transplant outcomes (Acute GVHD, Chronic GVHD, TRM, Overall Survival); Identify pre-transplant risk factors for development of CDI after allogeneic HCT.

Eligible population: All patients age 2 years and older receiving first allogeneic HCT for AML, ALL, or MDS in 2013 to 2018. Fully HLA matched 8/8 related or unrelated donor. Cases will be patients reported with CDI by day 100 and controls will be all patients from the same centers with cases.

There are (826+77) cases and 6725 controls identified in 127 transplant Centers. 77 cases were identified pre HCT: during conditioning day -7 to -1. Patient, donor and disease related characteristics seem comparable between cases and controls. Transplant related characteristics seem comparable in terms of time to transplant, HLA matching, GVHD prophylaxis, year of transplant, systemic antibacterial use etc.

Dr. Ramanathan pointed out the limitations of the study: Prophylactic antibiotic use is not captured in CIBMTR database prior to March 2017; CIBMTR does not capture any diagnostic

information for CDI, hence all data is based on Center's reporting; Not all CDI causes clinical symptoms and definition of CDI is center specific; Above center specific effects has been partially overcome by using controls from only centers that have cases; History of CDI prior to HCT, severity of CDI or the treatment that was given is not captured in the CIBMTR database. The study has been sent to Infection Working Committee for comments. The study will be revised and analyzed based on the comments.

Comments: report # of patients with recurrent CDI

c. **IN19-01** Immune recovery predicts post-transplant outcomes (Miguel-Angel Perales/ Paul Szabolcs) **Protocol development**

Dr. Miguel-Angel Perales updated this study.

The study aims are: Assess transplant outcomes in adult and pediatric patients who undergo allo-HCT based on day 100 CD4 count (Survival, GVHD, Relapse/progression, Infections); Assess transplant outcomes in adult and pediatric patients who undergo allo-HCT based on day 180 immune recovery of CD4 count and attaining IgA levels within normal range. (Survival, GVHD, Relapse/progression, Infections); Descriptive analysis of immune recovery post HCT including T, B and NK cells, as well as Ig levels; Risk factors for poor immune recovery by day 100.

Dr. Perales mentioned, this is the first multicenter immune reconstitution study at the CIBMTR. It is largest dataset to date. This study will confirm and expand single center studies results. Dr. Marcie Riches mentioned all of the 2236 eligible patients in this study have immune reconstitution data at day100 and day180. This study will be presented at the CIBMTR statistical meeting soon.

d. **IN19-02** Impact of Antibiotic Prophylaxis in Patients Undergoing Allogeneic Hematopoietic Cell Transplantation in the Current Era (Zeinab El Boghdadly/ Christopher Eugene Dandoy/ Priscila Badia Alonso) **Protocol development**

Dr. Zeinab El Boghdadly presented this study.

The study objectives are: Compare clinical outcomes between patients (adults and pediatrics) undergoing first allo-HSCT who received and did not receive pre-engraftment antibiotic prophylaxis. The primary outcomes are: Incidence of pre-engraftment blood stream infections (BSIs); Incidence of acute GVHD II-IV; OS and NRM by day100 and 1 year. The secondary outcomes are: Acute lower GI GVHD III-IV by day100; Infection episodes (BSIs, CDI, septic shock, fungal, viral) by day100; Cause of Death (infection vs non-infectious).

The study will be presented in the CIBMTR statistical meeting in about 2 months. One suggestion from the audience is to have a separate analysis for the pediatric population.

5. Future/proposed studies

- Dr. Roy Chemaly moderated the future/proposed studies.
- **PROP 1911-49** Risk for early post-transplant bacterial, viral and fungal infection in Hodgkin's lymphoma patients that receive pre-transplant therapy with checkpoint inhibitors (M McGhee/ D P. Melendez/ J Holter-Chakrabarty/ S K. Vesely)

Dr. Miranda McGhee presented the proposal. The scientific justification of the study are Infections and infectious complications cause significant morbidity and mortality in patients undergoing HCT. No study has been performed studying the effect that check-point inhibitors (CPIs) have on the risk of infectious complications in patients with Hodgkin lymphoma who are undergoing HCT. One study suggest a 13.5% infection risk when managing Immune related adverse events (IRAEs) and a 2% infection risk with CPIs independent of the management of IRAEs. ; There are no data to investigate the need for antimicrobial prophylaxis when using CPIs or managing associated IRAEs. The hypothesis of the proposal is those who received CPIs prior to HCT are higher risk for infection and have worse outcomes including disease-free survival and mortality. The primary Aims are to compare the occurrence of bacterial, viral and fungal infection in patients with HL that received CPI prior to HCT compared to those that did not receive CPI prior to HCT. The secondary aims are to identify risk factors besides prior CPI use for development of infection in patients that undergo HCT;

Compare outcomes between those who did and did not receive CPI in each group. The study population is all patients that received HCT (both allogeneic and autologous) for the treatment of HL and were reported to CIBMTR from 2013 to 2019.

Suggestions from the committee are:

- Select patients from 2008 to increase the population
- Limit to allogeneic HCT due to the small number of cases in auto population
- Look "other specified field" to find more cases
- The statistical designed will be refined by the statistical center at the CIBMTR if the proposal going forward. One suggestion was to consider matched control design versus a case-cohort design
- Dr. Perales noted that a study examining transplant outcomes for HL patients with prior CPI use was presented in the Lymphoma WC with plans to collaborate with EBMT.
- PROP 1911-90 Changing epidemiology and outcomes of invasive candida infections in the current era of stem cell transplantation (J S. Green/ C Ustun)
 Dr. Jaime Green presented this proposal.

The specific aims are: Characterize the epidemiology of breakthrough yeast infections in the modern era of antifungal prophylaxisexamining Candida spp and other less common yeasts; timing after transplant (early, before neutrophil engraftment; late onset, after neutrophil engraftment); Identification of risk factors for breakthrough invasive yeast infections (Expanded SCT platforms, donor sources); Mortality impact and incidence of Candida albicans versus Candida non-albicans spp.

The hypothesis of the proposal are: Incidence of Non-albicans candida and other breakthrough yeast infections has been increasing with fluconazole prophylaxis; Non-albicans candida and other breakthrough yeast infections have a higher mortality compared to C. albicans infections; Early invasive Candida (IC) (before neutrophil engraftment) has a higher mortality compared to late IC (after neutrophil engraftment).

Dr. Marcie Riches mentioned the infections listed in the table are not mutually exclusive. The collection of infection prophylaxis prior to 2017 is a limitation.

c. PROP 1911-197 Evaluating time from diagnosis to transplant as an important contributor for post-allogeneic stem cell transplant infections and infection/delayed immune reconstitution associated mortality/morbidity (L Gowda/ C Ustin/ M de Lima/ J Boelens) Dr. Lohith Gowda presented this proposal.

The Scientific rationale of this proposal are that Chemo or RT peri-transplant affects thymic output (lymphomagenesis). A delay in transplant generally leads to more treatment to maintain remission. ; Post-transplant T cell quantitative deficiency linked with increased infections, relapse and second malignancy. Conversely, prior studies demonstrate that early T cell recovery

is assoiciated with better PFS, OS and prevention of CMV reactivation. Therefore, protecting the thymus, minimizing infections, and expediting immune-reconstitution by better understanding associated risk factors is an unmet need.

The hypothesis is that thetime (delay) to transplant from diagnosis is an important contributor for post-transplant infections, delayed immune-reconstitution and contributes to non-relapse mortality (NRM).

The aims are: To describe incidence and patterns of post-transplant infections at different timepoints based on time from diagnosis to transplant; To explore association between infectious complications and clinical outcomes based on timeline; To longitudinally evaluate T cell recovery (including CD4/CD8 ratio) and quantitative immunoglobulin levels post-transplant based on time to transplant from the time of diagnosis.

The outcomes are: Relate early and late infections (bacterial, viral and fungal) to the time to transplant and donor source. (stratified for CR status); Relate T cell lymphocyte absolute numbers and CD4/CD8 ratio at days +100 and +180 to donor source; Infection specific survival and Infectious mortality/morbidity (OS, EFS, GVHD and GRFS based on donor/graft source); Evaluate quantitative immunoglobulin levels at D+ 100 and +180.

The working committee noted that many factors affect the time to HCT, may not be representative of the treatment but could reflect disease risk such that higher risk may move to HCT more quickly or relative disease refractoriness may result in longer time due to requirement for additional treatments. There are also other confounders such as the conditioning intensity used or development of GVHD post-transplant impact infections and immune recovery. Dr. Miguel-Angel Perales suggested to use IN1901 dataset to improve the efficiency.

Dr. Marcie Riches suggested to limit the population to CR1.

d. **PROP 1911-34** Infectious disease patterns, clinical impacts and treatment in aggressive B cell non-Hodgkin lymphoma and precursor B acute lymphoblastic leukemia patients treated with CD19 CAR T cell therapy (K Wudhikarn/ M-A Perales)

PROP 1911-50 Impact of early infection in chimeric antigen receptor T cell therapy outcomes in the first 100 days post-therapy (M McGhee/ D P. Melendez/ J Holter-Chakrabarty/ S K. Vesely)
PROP 1911-76 Infectious complications after CAR-T cell immunotherapy in patients with B-cell malignancies (J Maalouf/ J A. Hill/ C J. Turtle)

PROP 1911-155 Infections after CD19-targeted chimeric antigen receptor–modified T-cell therapy for non-Hodgkin lymphoma(M Herr/ T Hahn)

PROP 1911-158 Observational study of infectious complications among patients treated with anti-CD19 chimeric antigen receptor T cells (H Rangarajan/ P Satwani)

PROP 1911-209 Infectious complications and immune reconstitution following CD19-directed CAR-T cell therapy (J H. Baird/ S Sidana/ J Y. Spiegel/ D Epstein/ D B. Miklos)

PROP 1911-235 The role of intravenous immune globulins in patients after CAR-T therapy (E McGehee/ A Kansagra/ P Ramakrishnan/ F Awan)

PROP 1911-254 Patterns of infections post CD 19 directed CAR-T cells infusions (L Gowda)PROP 1911-266 Risk factors for clinically significant infections following CD-19 CD19-targetedCAR-T cells therapy for hematological malignancies (A C Cordeiro/ G Fatobene/ M Bar/ V Rocha)

Dr. Miguel-Angel Perales presented this combined proposal.

Background/hypothesis: Infections after CD19 CAR T cells are common but vary based on time after CAR T cell therapy. Infections after CD19 CAR T cells may be mild and not associated with inferior survival outcomes. Antimicrobial prophylaxis and IVIG replacement may provide benefit on infection prevention in patients treated with CD19 CAR T cells

The proposal aims: To report incidence of infection stratified by pathogens & time after CAR T cell therapy; To explore association between infection & outcomes in patients treated with CAR T cells; To describe benefit of antimicrobial prophylaxis & IVIG on infectious complications in patients treated with CAR T cells.

Patients population is B-ALL and B-NHL with commercial CD19 CAR T cell. Patients receiving immunotherapy to augment CAR T action, or clinical Trial CAR T cell or Primary CNS lymphoma patients will be excluded.

Dr. Perales also pointed out the potential issuers: No infection prophylaxis data are available; No pre-treatment IDMs and No info on baseline infection (unless cell therapy given for an infection); IVIG – No IgG levels in cellular therapy registry but instructions to report if <600 (<500 for peds); No Immunoglobulin levels on 4100 form; All infections reported on 4100 form just as reported on CIBMTR 2100 form; Info re: GM-CSF on 4006 form (no G-CSF except other specify); No lymphocyte subset analyses on f/u forms.

Comments/suggestions:

- Plan for two analyses: ALL and NHL. This is due to the variability in prior treatments as well as very different age groups.
- If a patient had a HCT before a CAR T, we may have baseline infection data including IDMs
- It is a hot topic and could be a rapid publication
- The authorship for this paper follows the same CIBMTR rule of authorship. Because this is a merged protocol with 27 proponents, the goal will be to provide junior investigators as the PIs.
- The CIDR steering committee and the Chairs of the Cellular Therapy Working Committee must be involved in this study.

Dropped proposed studies

Dr. Marcie Riches explained the reasons for dropping proposals.

- a. **PROP 1907-02** The effect of antibacterial prophylaxis on early post-transplant mortality in patients with multiple myeloma and lymphoma undergoing high-dose chemotherapy and autologous hematopoietic cell transplantation: A retrospective study on behalf of the infection and immune reconstitution working committee. *Dropped due to small sample size.*
- b. **PROP 1911-86** Impact of Letermovir on rates of CMV reactivation and transplant outcomes. *Dropped due to supplemental /additional data needed.*
- c. **PROP 1911-109** The impact of CMV serostatus on outcomes after haploidentical stem cell transplant. *Dropped due to overlap with current study/publication.*
- d. **PROP 1911-226** Outcomes of allogeneic hematopoietic cell transplant recipients with serious viral infections including EBV, CMV, HHV6, BK and adenovirus post haploidentical transplants

compared to cord transplants and matched donor allogeneic hematopoietic cell transplants (allo HCT). *Dropped due to low scientific impact.*

6. Other Business

Dr. Marcie Riches moderated this section:

- There is an immune recovery data collection issue with significant missing data
- Reminded the working committee that if a patient never had a HCT, we would not have infection information before a cellular therapy
- Encourage PIs to submit ideas for proposals early to the Scientific Director and/or Chairs to allow a pre-assessment of feasibility as well as to facilitate strengthening of the proposal.
- The INWC is working on the Dynamic Landmark analysis paper.
- Encouraged audience to attend 2 oral presentations and 1 poster presentation of study IN1701 on Sunday.

Working Committee Overview Plan for 2020-2021								
Study number and title	Current status	Goal with date	Total hours to complete	Total hours to goal	Hours allocated to 06/30/20	Hours allocated 7/1/2020- 6/30/2021	Total Hours allocated	
IN 17-01(a): Incidence and Impact of Cytomegalovirus Infection in Haploidentical and Matched-Related Donors Receiving Post- Transplant Cyclophosphamide (PTCy): A CIBMTR Analysis	Manuscript Preparation	Published– June 2021	50	60	50	10	60	
IN17-01(b): Incidence and impact of Non-CMV herpes viral infection in Haploidentical and Matched Sibling Donors receiving Post-transplant Cyclophosphamide (PTCy): A CIBMTR Analysis.	Manuscript Preparation	Published - June 2021	50	60	50	10	60	
IN17-01(c): Incidence and Impact of Community Respiratory Viral Infection (CRV) in Haploidentical and Matched Sibling Donors receiving post-transplant Cyclophosphamide (PTCy): A CIBMTR analysis	Manuscript Preparation	Published - June 2021	50	60	50	10	60	
IN18-01: Comparison of Early (d100) Infections after Haplo HCT between patients receiving Cybased vs other GVHD prophylaxis	Data file Preparation	Submitted June 2021	170	170	100	70	170	
IN18-02: Study the Incidence, and impact of C diff infection within 100 days on Transplant outcomes after allogeneic stem cell transplant	Protocol development	Submitted- June 2021	250	250	180	70	250	
IN19-01: Immune recovery predicts post- transplant outcomes	Protocol development	Manuscript Preparation- June 2021	280	210	50	160	210	
IN19-02: Impact of antibacterial prophylaxis on outcomes after allogeneic hematopoietic stem cell transplant	Protocol development	Data file Preparation- June 2021	280	50	50	0	50	
IN20-01: Infectious complications after CAR.T Cell therapy	Protocol Pending	Manuscript Preparation- June 2021	330	260	0	260	260	

Work Assignments for Working Committee Leadership (March 2020)			
Krishna Komanduri	IN17-01(a): Incidence and Impact of Cytomegalovirus Infection in Haploidentical and Matched-Related Donors Receiving Post-Transplant Cyclophosphamide (PTCy): A CIBMTR Analysis (S Goldsmith/E Fuchs/A Bashey/S Ciurea/A Singh/ S Ganguly/R Taplitz/C Mulroney/R Maziarz/ R) (PROP 1611-02/1611-117/1611-134)		
Krishna Komanduri	IN17-01(b): Incidence and impact of Non-CMV herpes viral infection in Haploidentical and Matched Sibling Donors receiving Post-transplant Cyclophosphamide (PTCy): A CIBMTR Analysis. (A Singh/E Fuchs/A Bashey/S Ciurea/S Goldsmith/S Ganguly/Randy A Taplitz/C)(PROP 1611-02/1611-117/1611-134)		
Krishna Komanduri	IN17-01(c): Incidence and Impact of Community Respiratory Viral Infection (CRV) in Haploidentical and Matched Sibling Donors receiving post-transplant Cyclophosphamide (PTCy): A CIBMTR analysis (R Taplitz/R Maziarz/C Mulroney/R Romee, S Goldsmith/E Fuchs/A Bashey/S Ciurea/A Singh/S Ganguly) (PROP 1611- 02/1611-117/1611-134)		
Miguel-Angel Perales	IN18-01: Comparison of Early (d100) Infections after Haplo HCT between patients receiving Cy-based vs other GVHD prophylaxis (Genovefa Papanicolaou/Celalettin Ustun)		
Roy Chemaly	IN18-02: Study the Incidence, and impact of C diff infection within 100 days on Transplant outcomes after allogeneic stem cell transplant (Muthalagu Ramanathan/ Bipin Savani)		
Miguel Perales	IN19-01: Immune recovery predicts post-transplant outcomes (Miguel-Angel Perales)		
Chris Dandoy	IN19-02: Impact of antibacterial prophylaxis on outcomes after allogeneic hematopoietic stem cell transplant (C Dandoy/ P Alonso/ Z El Boghdadly)		
Miguel Perales	IN20-01: Infectious complications after CAR.T Cell therapy (TBD)		