Abbreviations: CMV: Cytomegalovirus; TCIP: T cell immunity panel; IQR: Interquartile range

Conclusion. Our results demonstrate the value of the CMV TCIP in identifying high risk HCT recipients prior to developing CS-CMV infection.

Disclosures. **Fareed Khawaja, MBBS**, **Eurofins Viracor** (Research Grant or Support) **Ella Ariza Heredia, MD**, **Merck** (Grant/Research Support) **Michelle Altrich, PhD, HCLD**, **Eurofins Viracor** (Employee) **Roy F. Chemaly, MD, MPH, FACP, FIDSA**, **AiCuris** (Grant/Research Support)**Ansun Biopharma** (Consultant, Grant/Research Support)**Chimerix** (Consultant, Grant/Research Support)**Clinigen** (Consultant)**Genentech** (Consultant, Grant/Research Support)**Janssen** (Consultant, Grant/Research Support)**Karius** (Grant/Research Support)**Merck** (Consultant, Grant/Research Support)**Molecular Partners** (Consultant, Advisor or Review Panel member)**Novartis** (Grant/Research Support)**Oxford Immunotec** (Consultant, Grant/Research Support)**Partner Therapeutics** (Consultant)**Pulmotec** (Consultant, Grant/Research Support)**Shire/Takeda** (Consultant, Grant/Research Support)**Viracor** (Grant/Research Support)**Xenex** (Grant/Research Support)

941. Isavuconazole Prophylaxis Against Invasive Fungal Infection: A Pooled Analysis with a Comparison of Posaconazole Delayed-release Tablet Prophylaxis

Chaeryoung Lee, MD[1]; Sung Kwan Hong, MD[1]; Jong Hun Kim, MD[2]; [1]CHA Bundang Medical Center, Seongnam, Kyonggi-do, Republic of Korea; [2]Korea University, Seoul, Seoul-t'ukpyolsi, Republic of Korea

Session: P-53. Infections in Immunocompromised Individuals

Background. There are limited data regarding the use of isavuconazole as primary antifungal prophylaxis against invasive fungal infection (IFI) among immunocompromised patients. Therefore, the purpose of this study was to assess efficacy and breakthrough IFIs of isavuconazole prophylaxis by a pooled analysis of the reported cases of isavuconazole prophylaxis with a comparison of cases of posaconazole delayed-release tablet prophylaxis.

Methods. Pubmed was searched for English-written articles published up to April 2021. Studies that reported cases of primary antifungal prophylaxis with isavuconazole or posaconazole delayed-release tablet in adults ≥ 18 years were reviewed. Breakthrough IFI was defined as the occurrence of proven or probable IFI while on prophylaxis.

Results. For overall isavuconazole prophylaxis, a total of 818 courses of prophylaxis was identified from 12 studies. Breakthrough IFIs were noted in 41 patients. The median duration of isavuconazole prophylaxis of these patients before the diagnosis of IFI was 17 days. The most common breakthrough IFI was candidiasis (34.1%), followed by aspergillosis (24.4%) and mucormycosis (12.2%). Sixteen patients died (39.0%). Among patients with hematologic malignancies or hematopoietic stem cell transplantation, isavuconazole prophylaxis (404 courses) was compared with posaconazole delayed-release tablet prophylaxis (1952 courses). The incidence rate of breakthrough IFIs was higher in the cohort of isavuconazole prophylaxis (24 patients of 404 courses) than in the cohort of posaconazole delayed-release tablet prophylaxis (44 patients of 1952 courses). Aspergillosis (40.9%) was the most common breakthrough IFI in the cohort of isavuconazole prophylaxis among patients with hematologic malignancies or hematopoietic stem cell transplantation, followed by candidiasis (27.3%) and mucormycosis (18.2%).

Conclusion. Although isavuconazole is licensed to treat aspergillosis and mucormycosis, breakthrough IFIs including aspergillosis, mucormycosis, and candidiasis may occur while on isavuconazole prophylaxis. Therefore, further studies are needed to define the benefits and risks of isavuconazole prophylaxis.

Disclosures. **All Authors**: No reported disclosures

942. Pulmonary Infections in Intestinal Transplant Recipients with Preexisting Pulmonary Nodules

Jorge Cardenas, MD[1]; Yoichiro Natori, MD, MPH[2]; Shweta Anjan, MD[3]; Rodrigo Vianna, MD[4]; Jennifer Garcia, MD[4]; Jacques Simkins, MD[3]; [1]University of Miami, Miami, FL; [2]Jackson Memorial Hospital/Miami Transplant Institute, University of Miami Miller School of Medicine, Miami, FL; [3]University of Miami/Jackson Memorial Hospital, Miami, FL; [4]Jackson Memorial Hospital/ Miami Transplant Institute, Miami, FL

Session: P-53. Infections in Immunocompromised Individuals

Background. Pulmonary nodules in asymptomatic patients could represent latent pulmonary infections. Intestinal transplant (ITx) recipients with preexisting pulmonary nodules might be at higher risk for pulmonary infections. However, data is lacking.

Methods. This retrospective study included adult patients that underwent intestinal transplantation (ITx) from 5/2016 to 5/2020. Chest computed tomography (CT) scans performed within 12 months prior of ITx were obtained to evaluate for preexisting pulmonary nodules. Screening for endemic mycoses, *Aspergillus*, *Cryptococcus* and latent tuberculosis infection (LTBI) performed within 12 months prior ITx was obtained. We assessed for worsening pulmonary nodules, and fungal and mycobacterial infections during the 1st year post-transplant. Survival at one year post-transplant was also assessed.

Results. Forty-three patients underwent ITx. Twenty-three (53%) were Female. Median age was 46 years (range: 18-67). Chest CT scans were performed in 36(84%) patients prior to ITx. Preexisting pulmonary nodules were found in 30 (83%) of the patients. All were asymptomatic. Nodules were not calcified in 10 (33%) patients, calcified in 4 (13%), some calcified and some not calcified in 4 (13%) and unclear in 12 (40%). All the patients screened negative for fungi [*Coccidioides* antibody (Ab) was done in 15 (50%) patients, *Blastomyces* Ab and Histoplasma Ab in 7 (23%) each, *Histoplasma* urine antigen (Ag) and *Aspergillus* serum galactomannan in 3 (10%) each, and *Cryptococcus* serum Ag in 10 (33%) patients]. QuantiFERON-TB (QFT) was negative in 35 (81%) patients, positive in 2 (5%) and indeterminate in 6 patients (14%). QFT-Gold In-Tube was replaced to QFT-Plus in 3/2019. Post-transplant worsening of pulmonary nodules was noted in 12 (40%) patients and bronchoscopy was performed in six of them. Note that only 1 (3%) of the patients that had pre-existing pulmonary nodules developed a pulmonary infection (invasive pulmonary aspergillosis diagnosed 33 days after ITx). Our cohort survival at one year post-transplant was 79%.

Conclusion. Preexisting pulmonary nodules was common in our ITx cohort. However, only one case of pulmonary infection was noted among those who had pre-existing pulmonary nodules. Clinical monitoring is essential.

Disclosures. **All Authors**: No reported disclosures

943. Epidemiology of Actinomycosis in a Tertiary Care Cancer Center

Mohammad El-Atoum, MD[1]; Nikolaos Almyroudis, MD[1]; Katherine M. Mullin, MD[2]; Brahm H. Segal, MD[2]; [1]University at Buffalo, Lancaster, New York; [2]Roswell Park Comprehensive Cancer Center, Buffalo, NY, Buffalo, New York

Session: P-53. Infections in Immunocompromised Individuals

Background. Actinomyces are human commensals with significant pathogenic potential. The aim of this study was to determine the epidemiology of Actinomycosis in a tertiary care cancer center and identify species most commonly associated with invasive disease.

Methods. We retrospectively reviewed all patients referred to our institution with suspected or documented solid or hematological malignancies and positive cultures for Actinomyces species from July 2007 to June 2020 (13 years). Species identification was performed by VITEK® automated system (bioMerieux Inc.). Probable invasive actinomycosis was defined as cases with consistent clinical presentation, suggestive radiographic findings, and a positive culture from a nonsterile site, but lack of histopathological confirmation. Proven invasive actinomycosis was defined as the presence of consistent clinical symptoms, suggestive radiographic findings, a positive culture and histopathological confirmation, or cultures from sterile site without histopathological confirmation. Contaminants were considered positive cultures from sterile or non-sterile site without evidence of disease.

Results. Of 233 cases with positive cultures 194 (83.3%) were considered contaminants and 39 (16.7%) diagnostic of invasive actinomycosis. Of 39 cases of invasive actinomycosis, 64% were documented in patients with solid tumors, 13% in hematological malignancy and 23% among individuals without proven malignancy, 25 (64%) were probable and 14 (36%) proven. Of patients with proven/probable actinomycosis 27 (69%) had polymicrobial growth. Abdominopelvic was the most frequent site of invasive actinomycosis. A. odontolyticus was the most common species isolated (41%) followed by A. meyeri (28%) in patients with invasive disease, and A. odontolyticus (42%) among contaminants.

Conclusion. The majority of positive cultures for Actinomyces species were considered contaminants. In our cohort Invasive actinomycosis affected mainly patients with solid tumors. Abdominopelvic was the most common site of invasive disease. Species most commonly associated with invasive actinomycosis were A. odontolyticus followed by A. meyeri with A. israelii isolated less frequently.

Disclosures. **All Authors**: No reported disclosures

944. CMV Peak Viral Load, Recurrence, Duration, and Outcomes in Kidney Transplant Recipients

Robin K. Avery, MD[1]; Robin K. Avery, MD[1]; Darin B. Ostrander, PhD, PhD[2]; Na Lu, MD, MA[2]; Felicia Akinwande, MBA MSN RN[2]; Min Young Kim, MD[3]; Shilpa Gopinath, MD[4]; Nitipong Permpalung, MD, MPH[5]; Obichukwu Ezennia, MPH[2]; Yuexin Tang, PhD[6]; Kieren Marr, MD[7]; [1]Johns Hopkins, Baltimore, MD; [2]Johns Hopkins University, Baltimore, Maryland; [3]Seoul Medical Center, Seoul, Seoul-t'ukpyolsi, Republic of Korea; [4]Johns Hopkins School of Medicine, Baltimore, Maryland; [5]Johns Hopkins University School of Medicine, Baltimore, MD; [6]Merck and Co., Inc, North wales, Pennsylvania; [7]John Hopkins, Bethesda, Maryland

Session: P-53. Infections in Immunocompromised Individuals

Background. Cytomegalovirus (CMV) infection continues to cause morbidity in kidney transplant recipients, despite prophylaxis and pre-emptive therapy. Predictors

of poor outcomes remain incompletely characterized. We questioned whether markers of CMV replication (CMV peak viral load, recurrent episodes, or duration of CMV DNAemia) are associated with adverse outcomes in the current era.

Methods. We studied 605 people who underwent kidney transplant at Johns Hopkins University (2010 – 2018). Mean follow-up was 45.5 months. The average age was 51.85 years and 39.7% were female. Donor-seropositive, recipient seronegative (D+/R-) patients received valganciclovir 900 mg/day for 6 months, while R+ patients received valganciclovir 450 mg/day for 3 months. CMV recurrence was defined as CMV DNAemia after two undetectable CMV PCR's. Outcomes of acute rejection, graft failure, and death were evaluated in univariate analysis; p values were calculated by Fisher's exact test.

Results. Peak CMV viral load was not associated with any outcomes (Table 1). There was a trend of increased graft failure in people who had long duration (>6 month) DNAemia (Table 2). More than two episodes of CMV reactivation was associated with graft failure and rejection (Table 3).

Table 1. Peak CMV viral load

Peak CMV Viral Load*	No CMV (n=493)	<10,000 (n=75)	10-50,000 (n=14)	50-100,000 (n=1)	>100,000 (n=23)	p value**
Rejection	83 (16.8%)	22 (29.3%)	3 (21.4%)	0	3 (13%)	0.78
Graft failure	62 (12.6%)	19 (25.3%)	2 (14.3%)	0	3 (13%)	1.0
Death	60 (12.2%)	13 (17.3%)	2 (14.3%)	0	5 (21%)	0.19

*IU/mL, from 4/2013; DNA copies/mL before ** Comparison of viral load >100,000 vs no CMV

Table 2. Duration of CMV DNAemia

Duration of DNAemia*	No CMV (n=493)	0 – 2 months (n=64)	2 - 6 months (n=29)	> 6 months (n=19)	p value**
Rejection	83 (16.8%)	17 (26.6%)	5 (17.2%)	6 (31.6%)	0.12
Graft failure	62 (12.6%)	17 (26.6%)	2 (6.9%)	5 (26.3%)	0.09
Death	60 (12.2%)	14 (21.9%)	2 (6.9%)	4 (21.1%)	0.27

*First positive to last positive CMV DNA ** Comparison of > 6 months vs the no CMV group

Table 3. CMV Recurrences

# of CMV episodes	No CMV (n=493)	1 episode (n=87)	2 episodes (n=16)	> 2 episodes (n=9)	p value*
Rejection	83 (16.8%)	21 (24.1%)	3 (18.8%)	4 (44.4%)	0.05
Graft failure	62 (12.6%)	19 (21.8%)	1 (6.3%)	4 (44.4%)	0.02
Death	60 (12.2%)	16 (18.4%)	3(18.8%)	1 (11.1%)	1.0

*Comparison of > 2 episodes vs no CMV

Conclusion. CMV reactivation is associated with kidney rejection and failure in univariate models. Multivariate analyses and longitudinal modeling will provide increased data upon which to better instruct preventative strategies.

Acknowledgments. Funding for the research study was provided by Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., Kenilworth, NJ, USA

Disclosures. **Robin K. Avery, MD**, **Aicuris** (Grant/Research Support)**Astellas** (Grant/Research Support)**Chimerix** (Research Grant or Support)**Merck** (Grant/Research Support)**Oxford Immunotec** (Grant/Research Support)**Qiagen** (Grant/Research Support)**Takeda/Shire** (Grant/Research Support) **Yuexin Tang, PhD**, **JnJ** (Other Financial or Material Support, Spouse's employment)**Merck & Co., Inc.** (Employee, Shareholder) **Kieren Marr, MD**, **Merck** (Grant/Research Support, Advisor or Review Panel member)

945. Bacteremia in Patients with Solid Tumors: Epidemiology, Clinical Features and Risk Factors for Mortality. Results from a Multicenter Study in Argentina

Patricia E. Costantini, Medical Doctor[1]; Diego Torres, Medical Doctor[2]; Miguel Dictar, Medical Doctor[3]; Andrea Nenna, Medical Doctor[4]; Alejandra Valledor, Medical Doctor[5]; Rosana Jordán, Medical Doctor[6]; Ana Laborde, Medical Doctor[7]; Sandra Lambert, Medical Doctor[8]; José Benso, Medical Doctor[9]; Alberto Carena, Medical Doctor[2]; Martín Luck, Medical Doctor[1]; Agustina Racioppi, Medical Doctor[3]; Laura Barcan, Medical Doctor[5]; María José Eusebio, Medical Doctor[6]; María Luz Gonzalez Ibañez, Medical Doctor[7]; Lucas Tula, Medical Doctor[8]; Fernando Pasteran, Microbiologist[10]; Alejandra Corso, Microbiologist[10]; Melina Rapoport, Microbiologist[10]; Marcelo Bronzi, Microbiologist[1]; Federico Nicola, Microbiologist[2]; Sandra Valle, Microbiologist[3]; María Laura Chaves, Microbiologist[4]; Graciela Greco, Microbiologist[5]; Renata Monge, Microbiologist[6]; María Cristina García Damiano, Microbiologist[7]; Miriam Blanco, Microbiologist[8]; Fabián Herrera, Medical Doctor[2]; [1]Instituto de Oncología Ángel H Roffo University of Buenos Aires, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [2]Centro de Educación Médica e Investigaciones Clínicas, CEMIC, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [3]Instituto Alexander Fleming, Buenos Aires, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [4]Hospital Municipal de Oncología Marie Curie, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [5]Hospital Italiano de Buenos Aires, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [6]Hospital Británico de Buenos Aires, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [7]FUNDALEU, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina; [8]Hospital El Cruce, Florencio Varela, Buenos Aires, Argentina; [9]Hospital Italiano de San Justo, San Justp, Buenos Aires, Argentina; [10]ANLIS-Malbrán, Buenos Aires, Ciudad Autonoma de Buenos Aires, Argentina

Argentinean Bacteremia in Cancer and Hematopoietic Stem Cell Transplant Study Group

Session: P-53. Infections in Immunocompromised Individuals

Background. Current information regarding bacteriemia in patients with solid tumors is scarce

Methods. To assess the etiology, clinical features and outcome in patients with solid tumors and bacteremia, we carried out a prospective multicenter study. Episodes of bacteriemia in adult cancer patients in 9 centers, from May 2014 to February 2021, were recorded. To identify factors associated with 30-day mortality, variables with $p < 0.05$ in univariate analysis were included in a logistic regression model for multivariate analysis

Results. Three hundred and thirty-two episodes of bacteremia were included, with 51% being women (mean age 59). The state of underlying disease was: recent diagnosis 27%, remission 27%, relapsed 29% and refractory 17%. Seventy-three percent had received chemotherapy in the last 30 days, 25% were receiving steroids. Neutropenia was present in 23% (mean duration 3 days). The most frequent sources were: abdominal 39%, urinary tract 21%, respiratory 15%, catheter 10% and skin and soft tissue 9%. The microorganisms were: Gram negative bacilli (GNB) 67% (Enterobacterales 84%), Gram positive cocci 36% (*Staphylococcus aureus* 33%) and polimicorbial 11%; 20% were multidrug resistant organisms (MDR-O), being 88% of them GNB (MDR-GNB). ESBL and KPC carbapenemase producing were the most frequent mechanisms of resistance. Mortality at day 7 and day 30 was 16% and 27%, respectively. In the univariate analysis, the risk factors for 30-day mortality were Charlson index, refractory underlying disease, use of steroids, polimicrobial bacteremia, *Staphylococcus aureus*, GNB resistant to carbapenems, APACHE and Pitt scores, hypotension, respiratory source and ICU admission. In multivariate analysis, risk factors for 30-day mortality were refractory underlying disease, GNB resistant to carbapenems and ICU admission, while 7-day clinical response was associated with lower mortality

Conclusion. Bacteremia is a serious complication in cancer patients, with high mortality. The state of underlying disease, infection caused by GNB resistant to carbapenems, and the severity of presentation are associated with increased mortality. Our results stress the importance of infection control measures and antibiotic stewardship to prevent colonization with MDR-O

Disclosures. **All Authors**: No reported disclosures