595. Letermovir (LTV) for Secondary Cytomegalovirus (CMV) Prevention in High Risk Hematopoietic Cell Transplant (HCT) Recipients: Interim Results of a Single Center, Open Label Study

Gyuri Han, BS[1]; Anat Stern, MD[2]; Yiqi Su, MS[2]; Boglarka Gyurkocza, MD[1]; Craig Sauter, MD[1]; Brian Shaffer, MD[1]; Genovefa Papanicolaou, MD[2]; Genovefa Papanicolaou, MD[2]; [1]Memorial Sloan Kettering Cancer Center, New York, New York; [2]Memorial Sloan Kettering, New York, NY

Session: P-26. Care Strategies for Transplant Patients

Background. Letermovir (LTV) is effective for prevention (ppx) of primary clinically significant CMV infection (csCMVi) in the first 100 days after hematopoietic cell transplant (HCT). Data on LTV for secondary ppx is limited. We report on the efficacy and safety of LTV administered for 14 weeks as secondary CMV ppx.

Methods. Patients (pts) enrolled in an open label study of LTV (ClinicalTrials.gov identifier: NCT04017962) from August 2019 through February 2021 were analyzed. Key eligibility criteria were: CMV high risk (receipt of mismatched and/or T-cell depleted HCT and/or graft versus host disease (GVHD) requiring systemic immunosuppressants) AND prior csCMVi with either undetectable CMV (≤ 136 IU/mL) or ≥ 2 consecutive values < 300 IU/mL at enrollment. Pts with breakthrough csCMVi on LTV or history of LTV resistance were excluded. LTV was administered for 14 weeks or csCMVi whichever occurred first. The study duration was 24 weeks. CMV was monitored per standards of care. The primary endpoint was csCMVi by week 14. Secondary endpoints were csCMVi by week 24, LTV resistance, CMV end-organ disease (EOD) and adverse events (AE) at least possibly related to LTV.

Results. Of 20 pts analyzed, the median age was 58 years (interquartile range [IQR] 46-63); 17 (85%) pts were CMV seropositive, 7 (35%) received mismatched HCT (haploidentical 3, cord blood 3; mismatched unrelated 1), 9 (45%) received CD34 selected allograft and 9 (45%) had GVHD at enrollment. Fourteen (70%) pts had received prior LTV. The median time from HCT to enrollment was 156 (IQR 37-244) and 55 (IQR 40-69) days for pts with and without prior LTV, respectively (P=0.16). CMV at enrollment was < 136IU/mL for 8 (40%) pts. By week 14, 4 (20%) pts developed csCMVi at median 48 days (range 40-66). Resistance testing performed in 3 of the 4 pts, identified LTV resistance mutations in 2 pts. There were no AEs related to LTV, and none developed EOD. Two pts developed csCMVi in the follow up phase. Three pts died during follow up (due to relapse, treatment related toxicity and GVHD), and four pts are in follow up.

Conclusion. LTV secondary prophylaxis was safe and prevented recurrent csCMVi in 80% of high risk patients, including patients with prior LTV exposure. Our data supports the utility of LTV for secondary CMV prevention following HCT.

Disclosures. **Boglarka Gyurkocza, MD**, **Actinium Pharma, Inc.** (Grant/Research Support, Research Grant or Support) **Genovefa Papanicolaou, MD**, **ADMA biologics and Siemens Healthineers** (Consultant, Other Financial or Material Support)**AlloVir** (Consultant, Other Financial or Material Support)**Amplyx** (Scientific Research Study Investigator, Other Financial or Material Support)**Astellas** (Consultant, Grant/Research Support, Scientific Research Study Investigator, Research Grant or Support, Other Financial or Material Support)**Behring** (Consultant, Other Financial or Material Support)**Chimerix** (Consultant, Grant/Research Support, Scientific Research Study Investigator, Research Grant or Support, Other Financial or Material Support)**Cidara** (Consultant, Other Financial or Material Support)**Merck & Co** (Consultant, Grant/Research Support, Scientific Research Study Investigator, Research Grant or Support, Other Financial or Material Support)**Partners Therapeutics** (Consultant, Other Financial or Material Support)**Shionogi** (Consultant, Other Financial or Material Support)**Shire/Takeda** (Consultant, Grant/Research Support, Scientific Research Study Investigator, Research Grant or Support, Other Financial or Material Support) **Genovefa Papanicolaou, MD**, allovir (Individual(s) Involved: Self): Consultant; amplyx (Individual(s) Involved: Self): Consultant; behring (Individual(s) Involved: Self): Consultant; Merck&Co (Individual(s) Involved: Self): Consultant, Investigator and received funding and consulting fees from Merck, Chimerix, Shire and Astellas, Research Grant or Support; octapharma (Individual(s) Involved: Self): Consultant; Partners Therapeutics (Individual(s) Involved: Self): Consultant; takeda (Individual(s) Involved: Self): Consultant, Scientific Research Study Investigator

596. The ID Physician Is Out: Are Remote ID E-Consults an Effective Substitute?

Sui Kwong Li, MD[1]; Carolyn Fernandes, MD[1]; Sowmya Nanjappa, MD FIDSA FACP[1]; Sarah Burgdorf, MD, PhD[1]; Vidya Jagadeesan, MD[1]; Bettina Knoll, MD, PhD[1]; Shanza Khan, MD[1]; Nupur Gupta, DO[1]; John Mellors, MD[2]; Rima Abdel-Massih, MD[2]; Rima Abdel-Massih, MD[2]; [1]University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania; [2]University of Pittsburgh, Pittsburgh, Pennsylvania

Session: P-27. Clinical Practice Issues

Background. Telemedicine (TM) can provide specialty ID care for remote and underserved areas; however, the need for dedicated audio-visual equipment, secure and stable internet connectivity, and local staff to assist with the consultation has limited wider implementation of synchronous TM. ID e-consults (ID electronic consultations or asynchronous™) are an alternative but data are limited on their effectiveness, especially patient outcomes.

Methods. In the setting of the COVID-19 pandemic and ID physician outage, we were asked to perform ID e-consults at a 380-bed tertiary care hospital located in Blair County, PA. We performed retrospective chart reviews of 121 patients initially evaluated by ID e-consults between April 2020 and July 2020. Follow-up visits were also conducted via e-consults with or without direct phone calls with the patient. Key patient outcomes assessed were length of stay (LOS), disposition after hospitalization, 30-day mortality from initial ID e-consult and 30-day readmission post-discharge.

Results. The majority of patients were white males and non-ICU (Table 1). The most common ID diagnosis was bacteremia (27.3%, 33/121), followed by skin and soft tissue infections (15.7%, 19/121) and bone/joint infections (14.9%, 18/121) (Figure 1). Table 2 shows patient outcomes. Average total LOS was 11 days and 7 days post-initial ID e-consult. 48.7% (59/121) of patients were discharged home and 37.2% (45/121) to a post-acute rehabilitation facility. 2.5% (3/121) of patients required transfer to a higher level of care facility; none of which were to obtain in-person ID care. The index mortality rate was 3.3% (4/121), which appears to be lower than published data for in-person ID care. The 30-day mortality rate was 4.1% (5/121), which is also comparable to previously reported for ID e-consults. 25.6% (31/121) of patients required readmission within 30 days but only 14.0% (17/121) were related to the initial infection.

Table 1. Demographics

Age, mean (SD), y	61.2 (16.7)
Gender, No. (%)	
Female	50 (41.3)
Male	71 (58.7)
Race, No. (%)	
White	115 (95.0)
Other	6 (5.0)
BMI, mean (SD)	31.5 (8.6)
Immunocompromised State, No. (%)	21 (17.4)
Immunosuppressive Agents*	5 (4.1)
Solid Tumor	11 (9.1)
Hematologic Malignancy	5 (4.1)
Charlson Comorbidity Index Score, mean (SD)	4.8 (3.0)
Hospitalization during previous 6 mo, No. (%)	
Yes	57 (47.1)
No	64 (52.9)
ICU status at the time of e-consult, No. (%)	
Yes	13 (10.7)
No	108 (89.3)

*Immunosuppressive agents include: Apremilast, Dasatinib, Etanercept, Remicade, Rituximab, and Prednisone >10 mg/day

Figure 1. Variety of ID Diagnoses made by e-consults

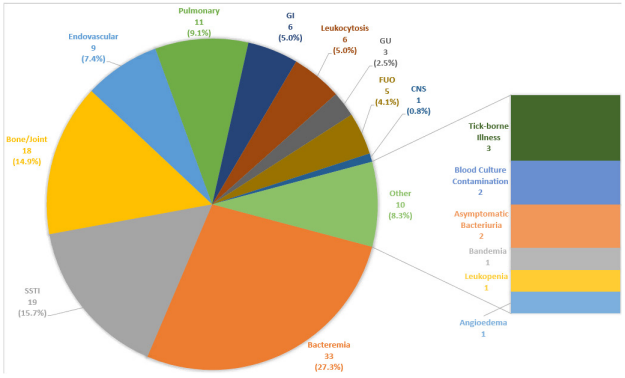


Table 2. Outcomes

Length of stay, mean (SD), d	
Total	11 (9)
Post-e-consult	7 (8)
Disposition, No. (%)	
Home	59 (48.7)
Post-acute rehabilitation facility	45 (37.2)
Left against medical advice	7 (5.8)
Hospice	3 (2.5)
Hospital transfer	3 (2.5)
Index stay mortality	4 (3.3)
Death within 30 d of ID e-consult, No. (%)	5 (4.1)
Readmission within 30 d post-discharge, No. (%)	31 (25.6)
Readmission within 30 d related to initial infection, No. (%)	17 (14.0)

*Immunosuppressive agents include: Apremilast, Dasatinib, Etanercept, Remicade, Rituximab, and Prednisone >10 mg/day

Conclusion. We believe that this is the first report of the implementation of ID e-consults at a tertiary care hospital. Mortality rates appear to be comparable to in-person ID care. In the absence of in-person ID physicians, ID e-consults can be a reasonable substitute. Further study is required to compare performance of ID e-consults to in-person ID consults.

Disclosures. **John Mellors, MD**, **Abound Bio, Inc.** (Shareholder)**Accelevir** (Consultant)**Co-Crystal Pharma, Inc.** (Other Financial or Material Support, Share Options)**Gilead Sciences, Inc.** (Advisor or Review Panel member, Research Grant or Support)**Infectious DIseases Connect** (Other Financial or Material Support, Share Options)**Janssen** (Consultant)**Merck** (Consultant) **Rima Abdel-Massih, MD**, **Infectious Disease Connect** (Employee, Director of Clinical Operations) **Rima Abdel-Massih, MD**, Infectious Disease Connect (Individual(s) Involved: Self): Chief Medical Officer, Other Financial or Material Support, Other Financial or Material Support, Shareholder

597. The Impact of COVID-19 on Outpatient Intravenous Antimicrobial Therapy (OPAT) in Physician Office Infusion Centers (POICs)

Clifford P. Martin, MD[1]; Robin H. Dretler, MD, FIDSA[2]; Jorge R. Bernett, MD[3]; Barry Statner, MD, FRCPC, FIDSA[4]; Thomas K. Sleweon, MD[5]; Quyen Luu, MD[6]; Richard C. Prokesch, MD, FACP, FIDSA[7]; Kent Stock, MD[8]; Claudia P. Schroeder, PharmD, PhD[9]; Thomas C. Hardin, PharmD[9]; Lucinda J. Van Anglen, PharmD[9]; [1]Southern Arizona Infectious Disease Specialists, PLC, Tucson, Arizona; [2]Infectious Disease Specialists of Atlanta, P.C., Decatur, GA; [3]Infectious Disease Doctors Medical Group, Walnut Creek, CA; [4]Mazur, Statner, Dutta, Nathan, PC, Thousand Oaks, CA; [5]Infectious Disease Specialists, Highland, Indiana; [6]Central Georgia Infectious Diseases, Macon, Georgia; [7]Infectious Disease Associates, Riverdale, GA; [8]Roper St Francis, Charleston, SC; [9]Healix Infusion Therapy, Sugar Land, TX

Session: P-27. Clinical Practice Issues

Background. The coronavirus disease 2019 (COVID-19) pandemic dramatically affected the provision of healthcare in the U.S. with sharp declines in routine and elective healthcare services. Outpatient clinic visits declined nearly 60% in the early pandemic. We investigated how COVID-19 impacted the provision of OPAT at various Infectious Disease (ID) POICs nationwide.

Methods. Patient (pt) records were evaluated from Jan 2019 – July 2019 and compared to Jan 2020 – July 2020. Data collected included new OPAT pts, demographics, infection type, location prior to OPAT and therapy characteristics. Statistical analysis was performed using Chi-square test with $p< 0.05$ considered statistically significant.

Results. Fourteen POICs reported data with a total of 2410 new OPAT pts in 2019 and 1807 in 2020, representing a decrease of 25%. Table 1 shows the comparison of OPAT characteristics between 2019 and 2020. Mean age and gender were similar, but there was a significantly higher percentage of pts ≥65 years treated in 2020 (43% vs. 36%, $p< 0.001$). Infection type and location prior to OPAT were consistent between 2019 and 2020. Primary antimicrobial use was comparable with the exception of cefepime, which showed a greater use in 2020 (14% vs. 11%, p=0.006). OPAT management differed significantly from 2019 to 2020 with fewer pts completing therapy as prescribed in 2020 (85.9% vs. 88.3%, p=0.021), driven largely by more early discontinuations and switches to oral therapy. Other reasons for those not completing therapy were also significant and due primarily to transfer of care to other settings, most commonly the home (1.9% vs. 2.9%, p=0.029). Overall length of therapy was comparable.

Table 1. Comparison of OPAT in 2019 (Pre-COVID) and 2020 (Post-COVID)

Variable	Jan to Jul 2019 (N=2,410)	Jan to Jul 2020 (N=1,807)	*P* Value*
Age, years			
mean ± SD	58.6 ± 15	59.7 ± 15	0.948
≥65 (n, %)	856 (36%)	775 (43%)	<0.001
Gender			
male	1,344 (56%)	1,050 (58%)	0.120
Source of referral			
hospital	1,529 (63%)	1,103 (61%)	0.117
community	882 (37%)	703 (39%)	0.120
Infection type			
bone and joint	822 (34%)	623 (34%)	0.785
skin and skin structure	618 (26%)	444 (25%)	0.438
genitourinary	284 (12%)	220 (12%)	0.690
bacteremia/septicemia	183 (8%)	120 (7%)	0.239
intra-abdominal	173 (7%)	137 (8%)	0.613
respiratory	118 (5%)	96 (5%)	0.537
cardiac	83 (3%)	62 (3%)	0.986
Primary antimicrobials[1]			
ceftriaxone	446 (19%)	377 (21%)	0.669
daptomycin	480 (20%)	333 (18%)	0.226
cefepime	274 (11%)	257 (14%)	0.006
ertapenem	319 (13%)	222 (12%)	0.359
vancomycin	333 (14%)	215 (12%)	0.068
OPAT management			
completed therapy as prescribed	2,128 (88.3%)	1,553 (85.9%)	0.021
early discontinuation	140 (5.8%)	120 (6.6%)	0.243
switch to oral therapy	95 (3.9%)	80 (4.4%)	0.435
other[2]	47 (1.9%)	54 (2.9%)	0.029
Length of OPAT, mean ± SD (days)	22 ± 5	21 ± 5	0.202

Data represent number of pts (%) unless otherwise indicated.
*; analyzed using Chi-Square test.
1; represents the five most frequently used intravenous antimicrobials.
2; other includes predominantly transfer of care to another setting.
Abbreviations: OPAT: outpatient parental antimicrobial therapy; SD: standard deviation.

Conclusion. OPAT provided through ID POICs experienced a substantial decrease in pts treated during the first half of 2020 compared to 2019. This was expected with the decline in healthcare services, especially elective procedures. Most pt and treatment characteristics were comparable between years, but interestingly, more elderly received OPAT during the pandemic and fewer completed therapy as planned. Further analysis of these differences can help determine effects of the pandemic on overall health outcomes in the OPAT population.

Disclosures. **Lucinda J. Van Anglen, PharmD**, **Merck & Co.** (Research Grant or Support)

598. A 3-Year Evaluation of Antibiotic Resistance Patterns in Gram-Negative Genitourinary Tract Infections Treated in Outpatient Infusion Centers (POICs)

Richard L. Hengel, MD[1]; Brian S. Metzger, MD, MPH[2]; H. Barry Baker, MD, FACP[3]; John S. Adams, MD[4]; Ramesh V. Nathan, MD, FIDSA[5]; Rishi Bhattacharyya, MD[6]; Richard M. Mandel, MD, FIDSA[7]; Kimberly A. Couch, PharmD, MA, FIDSA, FASHP[8]; Claudia P. Schroeder, PharmD, PhD[8]; Lucinda J. Van Anglen, PharmD[8]; [1]Atlanta ID Group, Atlanta, GA; [2]Austin Infectious Disease Consultants, Austin, TX; [3]Infectious Disease Physicians, Miami, FL; [4]Knoxville Infectious Disease Consultants, Knoxville, TN; [5]Mazur, Statner, Dutta, Nathan, PC, Thousand Oaks, CA; [6]Infectious Diseases Associates, Sarasota, FL; [7]Southern Arizona Infectious Disease Specialists, PLC, Tucson, AZ; [8]Healix Infusion Therapy, Sugar Land, TX

Session: P-27. Clinical Practice Issues

Background. Resistant Gram-negative pathogens (GNP) are common causes of genitourinary tract infections (GUI) often requiring outpatient parenteral antibiotic therapy (OPAT). Data are sparse regarding antibiotic resistance of GNP in patients (pts) treated with OPAT. We analyzed GNP of GUI pts treated in Infectious Disease OICs over a 3-year period stratified by location prior to OPAT.

Methods. Records from 18 POICs were queried for GUI pts with ≥1 GNP receiving OPAT from 2018 to 2020. Demographics, pt location prior to OPAT, infection type, year of therapy, and GNP were recorded. Antibiotic resistance patterns were defined as extended-spectrum beta-lactamase (ESBL) or multi-drug resistant (MDR). Chi Square and Fisher's exact test were used to determine if ESBL status was associated with GNP or location prior to OPAT (hospital vs. community). The Cochran-Armitage test was used to analyze temporal trend in ESBL expression. Statistical significance was defined as $P< 0.05$ for all tests.

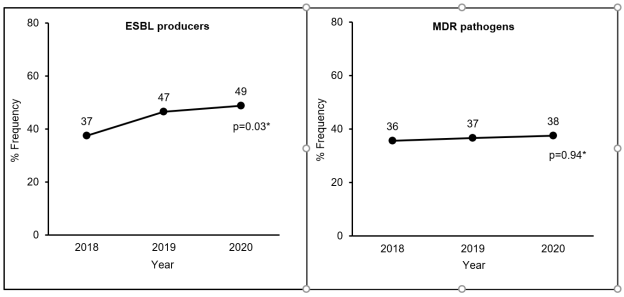
Results. A total of 634 GNP were identified in 601 pts (mean age: 64±16, 58% female). Infections were 75% complicated urinary tract infection, 20% pyelonephritis, and 5% prostatitis/other. Overall, 56% (n=339) were treated directly from the community and 44% (n=262) following hospital discharge. GNP isolated were 56% *E. coli*, 19% Pseudomonas spp., 16% Klebsiella spp. and 9% others. Of the 611 GNP with potential to express ESBL, 43% (n=265) were ESBL producers (Table 1). Significantly more ESBL-producing GNP occurred in pts discharged from a hospital prior to OPAT compared to the community (53% vs. 36%, $P< 0.001$). Overall, the incidence of MDR constituted 36% (n=231) of GNP, which did not differ by location prior to OPAT. Evaluation of ESBL incidence by year showed a significant increase from 2018 to 2020 (P=0.03). Although a slight increase in MDR was noted from 2018 to 2020, this was not significant (Figure 1).

Table 1. Frequency of ESBL and MDR by Location prior to OPAT

Gram-negative pathogen	No. of isolates	Extended-Spectrum Beta-Lactamase-Producers[1]		
		Hospital (n/N, %)	Community (n/N, %)	*P*-value
E. coli	355	125/201 (62%)	87/154 (56%)	0.278
Klebsiella spp.	103	14/29 (48%)	36/74 (49%)	0.973
Pseudomonas spp.	120	0/28 (0%)	0/92 (0%)	-
Others[1]	33	3/11 (27%)	0/22 (0%)	0.010
TOTAL	611	142/269 (53%)	123/342 (36%)	<0.001
Gram-negative pathogen	**No. of isolates**	**Multi-Drug Resistant Status[2]**		
		Hospital (n/N, %)	Community (n/N, %)	*P*-value
MDR-positive	231	108/274 (39%)	123/360 (34%)	0.174
No MDR	403	166/274 (61%)	237/360 (66%)	
TOTAL	634	274 (100%)	360 (100%)	-

1; Extended-spectrum beta-lactamase (ESBL) production was based on laboratory specification. Statistical analysis included only ESBL producers (*E. coli* , Klebsiella spp, Pseudomonas spp, *Achromobacter xylosoxidans* , *Enterobacter cloacae* , and *Proteus mirabilis*).
2; Multi-drug resistant status was assessed using CDC National Healthcare Safety Network criteria and included all Gram-negative pathogens (*E. coli* , Klebsiella spp, Pseudomonas spp, *Achromobacter xylosoxidans* , Acinetobacter spp., *Chronobacter sakazakii* , Citrobacter spp, *Enterobacter cloacae* , *Morganella morganii* , *Proteus mirabilis* , *Providencia stuartii* , *Raoultella ornithinolytica* , *Serratia marcescens*)

Figure 2. Prevalence of ESBL producers and MDR Pathogens by Year



*; estimated using Cochran-Armitage trend test using exact 2-sided probability.