609. Implementation of Bayesian Software for Vancomycin Dosing Integrated into an Electronic Medical Record

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Background. New vancomycin dosing guidelines recommend using a 24-hour area under the curve (AUC) goal of 400-600mg*h/L rather than a serum trough concentration 10-20 mg/L. This target has the potential to lower troughs and the occurrence of acute kidney injury (AKI). In summer 2020, we were the first to integrate DoseMeRx® Bayesian software into Epic OneChart®, our electronic medical record, to assist with dosing vancomycin. We sought to determine how doses and trough concentrations changed after software implementation. The study also aimed to establish the sample size needed to assess AKI rates.

Methods. This quasi-experimental study evaluated patients receiving ≥3 vancomycin doses before software integration (Q1 2020) and after (Q4 2020). Fifty patients in whom an adult 1-compartment model could be used and a trough concentration was measured were randomly selected from each period. Patients age ≤18 years, ≥200kg, or with pre-existing renal failure were excluded. AKI was defined using AKIN criteria of an increase in Scr of ≥ 0.3 mg/dL over 48 hours. Student's t-test was used for continuous variables and Fischer exact test for categorical outcomes.

Results. In Q1, 299 patients had ≥3 vancomycin doses with 107 reviewed to reach 50 meeting inclusion criteria. In Q4, 346 had ≥3 doses and 94 were reviewed to include 50 patients. The primary reason for exclusion was no trough concentration. Demographics and indications for vancomycin were well matched. Skin/soft tissue infection was the most common indication for vancomycin (n=16, both Q1 and Q4). Sixteen patients were in the ICU with 8 on vasopressors before integration. There were 10 patients in the ICU and 6 on vasopressors after. Results in Table 1 were not significantly different (all p >0.05). AKI occurred in 5 (10%) patients before integration and 3 (6%) after. Based on this, a sample of 1442 patients, or approximately 15 months of vancomycin AUC-based dosing, will need to be analyzed to achieve 80% power to detect a significant difference in AKI.

Table 1. Results related to vancomycin dosing before and after software integration

Characteristics	Before Integration	After Integration
Age, years	56 (15.8)	62 (16.9)
Gender, male	54%	54%
Weight, kg	85.2 (27.3)	83.9 (23.1)
Daily Vancomycin Dose, mg	2140 (697)	2155 (1016)
Baseline Scr, mg/dL	0.86 (0.32)	0.96 (0.46)
Concomitant Nephrotoxic Medications, n	1.8 (0.8)	1.4 (0.6)
Serum Trough Concentration, mg/L	13.3 (3.99)	13.1 (3.95)

Values reported as mean and standard deviation (SD) unless noted

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Conclusion. Vancomycin doses and trough concentrations were similar in the two groups and AKI rates were numerically lower. This serves as an exploratory analysis to inform a larger study on the effects of integrating Bayesian dosing software for vancomycin dosing.

Disclosures. **Bryan Alexander, PharmD**, **Astellas Pharma** (Advisor or Review Panel member) **Trevor C. Van Schooneveld, MD, FACP**, BioFire (Individual(s) Involved: Self): Consultant, Scientific Research Study Investigator; Insmed (Individual(s) Involved: Self): Scientific Research Study Investigator; Merck (Individual(s) Involved: Self): Scientific Research Study Investigator; Rebiotix (Individual(s) Involved: Self): Scientific Research Study Investigator **Scott J. Bergman, PharmD, FCCP, FIDSA, BCPS, BCIDP**, **Merck & Co., Inc** (Grant/Research Support) **Scott J. Bergman, PharmD, FCCP, FIDSA, BCPS, BCIDP**, Merck & Co., Inc (Individual(s) Involved: Self): Research Grant or Support

610. Tele-ID Consult Services at Academic Medical Centers: Experience and Outcomes During the SARS-CoV-2 Pandemic

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Background. Remote telemedicine ID consults (Tele-ID) appear to be effective for inpatients at community hospitals. Tele-ID is not used at academic medical centers (AMCs) because of the availability of onsite ID physicians. During the COVID-19 pandemic, intra-hospital Tele-ID was implemented because of insufficient PPE and the risk of SARS-CoV-2 exposure. To understand the effectiveness of intra-hospital Tele-ID, we compared outcomes following Tele vs. in-person ID consultation.

Methods. This is a longitudinal, matched, case-control study at two tertiary AMCs in Pittsburgh. Cases were evaluated via Tele-ID only (video, e-consults +/- inpatient phone call) between 3/1/20 – 5/31/20. Controls had in-person consults between 3/1/19 – 11/30/19 matched to cases by sex, race, ethnicity, transplant, age, BMI, Elixhauser score, and ID-specific coded diagnosis. Both groups were evaluated by existing general ID (GID) or transplant ID (TID) service physicians. Patients with COVID-19 diagnosis were excluded. Outcomes included ICU admission, hospital and ICU length of stay (LOS), in-hospital, 30 and 60-day mortality, and 30 and 60-day readmission.

Results. Among the Tele-ID group, 125 inpatients were evaluated by GID and 81 by TID. The majority were Caucasian, male, and non-ICU (Table 1). A broad range of ID diagnosis were made, most commonly bacteremia and pneumonia (Fig 1). Average hospital LOS post-ID consult was 6.26 days (GID) and 6.5 days (TID). For ICU patients, average LOS was 12 days (GID) and 7.6 days (TID). There were 5 (4%) and 3 (3.7%) in-hospital deaths, and 3 (2.4%) and 5 (6.2%) deaths at 30 days for GID and TID, respectively (Table 1). 65 cases could be matched to 633 controls by exact ID coded diagnosis (Table 2). Comparison of Tele-ID cases to in-person controls showed shorter ICU LOS (118.1 vs 269.2 hours; p = 0.002) and lower 30-day readmission (5.1 vs 17.3%; p = 0.004) for cases (Table 2). ICU admission and mortality were similar.

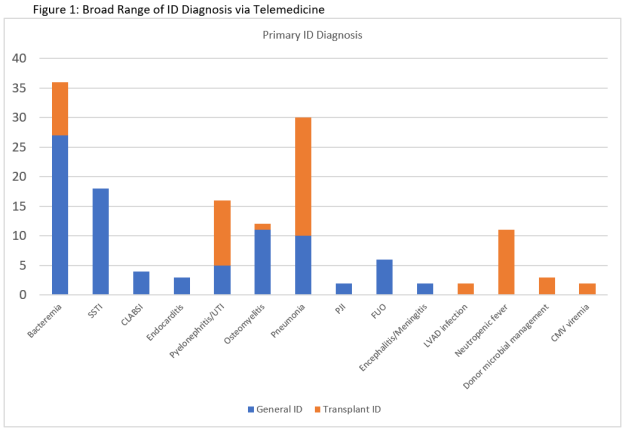
Table 1: Characteristics and Primary Outcomes of the Tele-ID Cases (3/1/20 – 5/31/20)

	General ID	Transplant ID
Number of consults	125	81
Initial consult location – Floor (#)	111	61
Average age (years; range)	57.8 (20-92)	56.8 (24-85)
Female (%)	52 (42%)	39 (48%)
Caucasian (%)	92 (74%)	64 (79%)
Average Charlson Comorbidity Index (range)	3.2 (0-13)	4.4 (0-11)
Heart transplant (#)		9
Lung transplant (#)		9
Kidney transplant (#)		18
Stem cell transplant (#)		4
CAR-T (#)		2
Liver transplant (#)		12
Multiple transplants (#)		7
Pre-transplant evaluation including LVAD (#)		18
Average Hospital LOS post-ID consult (days; range)	6.26 (-0.11-39.9)	6.5 (0.08-33.8)
Average ICU LOS (days; range)	12 (0-27)	7.6 (0-33)
In-hospital mortality (%)	5 (4%)	3 (3.7%)
30-day mortality (%)	3 (2.4%)	5 (6.2%)
30-day readmission for 1° ID infection (%)	7 (5%)	10 (12%)

Table 2: Primary Outcomes of Matched In-person Controls to Tele-ID Cases

	Controls	Cases	Standardized Differences	95% CI	P-value
Number	633	65			
In-hospital mortality	7.7%	4.0%	0.156	-12.8 to 1.9%	0.143
30-day mortality	9.8%	4.9%	0.187	-15.6 to 0.9%	0.080
60-day mortality	12.9%	8.6%	0.139	-15.2 to 2.4%	0.155
30-day readmission	17.3%	5.1%	0.394	-25.0 to -4.9%	**0.004**
ICU admission	53.8%	46.6%	0.145	-16.7 to 10.6%	0.665
ICU LOS (hours)	269.2	118.1	0.545	-365.5 to 81.7	**0.002**

Figure 1: Broad Range of ID Diagnosis via Telemedicine



Conclusion. During the pandemic, intra-hospital Tele-ID proved to be an effective alternative to in-person ID consults at large AMCs, as evidenced by shorter ICU LOS and lower 30-day readmission for Tele-ID, and no difference in mortality. This experience suggests that Tele-ID could be used at AMCs as an alternative to in-person consults in non-pandemic settings.

Disclosures. **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

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611. No Source Control: Low Rates of Medication for Opioid Use Disorder in Individuals Hospitalized with Infectious Complications of Injection Opioid Use at Four Academic Medical Centers

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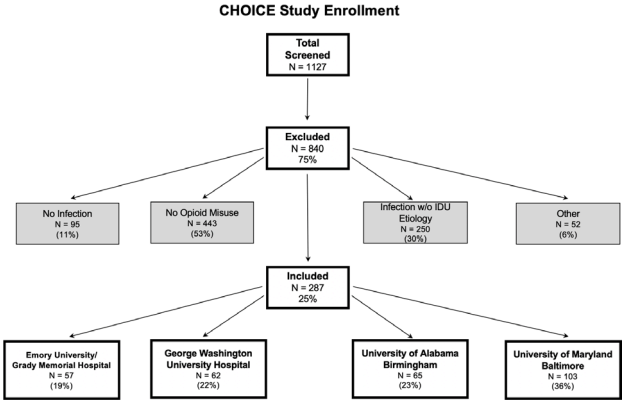
Background. Rates of hospitalization for bacterial infections due to opioid use disorder (OUD) are rising. Medication for OUD (MOUD) is an evidence-based intervention to treat OUD; however, MOUD initiation during hospitalization remain suboptimal. We aim to understand the continuum of MOUD and impact of MOUD initiation on outcomes of patients hospitalized with infectious complications of OUD.

Methods. CHOICE is a retrospective review of adults hospitalized with an infectious complication of OUD and IDU at four academic medical centers (Figure 1). Patients were hospitalized between 1/1/2018 and 12/31/2018, had ICD9/10 diagnosis codes consistent with OUD and acute bacterial/fungal infection, and chart review verification of active infection associated with OUD. Data were abstracted regarding demographics, inpatient interventions, transitions of care, and 1 year outcomes. Linear regression model with generalized estimating equation was used to evaluate associations of MOUD initiation with outcomes.



Results. 287 patients were predominately male (59%), white (63%), and median age 40 (32;52), with 72 (25%) uninsured, 103 (36%) unstably housed, and 84 (29%) were on MOUD prior to admission. 129 (45%) received MOUD during admission, 113 (39%) had MOUD prescribed on discharge, and 24 (8.4%) were linked to MOUD after admission [fig 2]. During sentinel admission, 62 (22%) were discharged prematurely/eloped, of whom 43 (69%) left without an antibiotic plan. Of the 202 (71%) not on MOUD at baseline, 55 (27%) initiated MOUD during admission. MOUD initiation was associated with higher odds of planned discharge (OR 6.7; p=0.0002) and being discharged on MOUD (OR 174; p< 0.0001) [fig 3]. Being uninsured was associated with lower odds of planned discharge (OR 0.55; < 0.0001) and discharge on MOUD (OR 0.59; p=0.02).

CHOICE Baseline Demographics (N=287)

Characteristic	Median or N	IQR or %
Age, M / IQR	40	32 - 52
Gender, N / %		
Male	168	58.7
Female	118	41.3
Race, N / %		
Black	97	33.9
White	181	63.3
Other	7	2.4
Hispanic, N / %		
Hispanic	3	1.0
Not Documented	4	1.4
Insurance Status, N / %		
Medicaid	150	52.3
Insured, Other	49	17.1
Uninsured	72	25.2
Housing Status, N / %		
Unstable	103	35.9
Stable	136	47.4
Not documented	48	16.7
Presenting Complaint, N / %		
Pain	162	56.6
Fever	30	10.5
Overdose	11	3.8
Other	191	66.8
ID Diagnosis, N / %		
Skin/Soft tissue infection	183	64.2
Bacteremia	93	32.6
Endocarditis	40	14.0
Osteomyelitis	40	14.0
Other	59	20.7