LB-1. Efficacy and Safety of Oral Sulopenem Etzadroxil/Probenecid Versus Oral Ciprofloxacin in the Treatment of Uncomplicated Urinary Tract Infections (uUTI) in Adult Women: Results from the SURE-1 Trial

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Session: O-36. STIs & UTIs
Monday, January 1, 2001: 1:00 AM

Background. Sulopenem is a broad-spectrum IV and oral penem antibiotic being developed for the treatment of infections caused by multidrug-resistant bacteria.

Overall and Clinical Success in Patients with an Uncomplicated UTI at Test of Cure (TOC) and End of Treatment (EOT)

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Micro-MITT population	Sulopenem n/N (%)	Ciprofloxacin n/N (%)	Difference (%) (95% CI)	P value
Quinolone Non-susceptible Population (MITTR)				
Overall Response (TOC)	92/147 (62.6%)	50/139 (36.0%)	26.6% (15.1, 37.4)	< 0.001
Reason for Failure: Asymptomatic bacteriuria	27 (18.4%)	38 (27.3%)		
Clinical Response (TOC)	122/147 (83.0%)	87/139 (62.6%)	20.4% (10.2, 30.4)	< 0.001
Overall Response (EOT)	95/147 (64.6%)	42/139 (30.2%)	34.4% (23.1, 44.8)	< 0.001
Quinolone Susceptible Population (MITTS)				
Overall Response (TOC)	247/370 (66.8%)	326/415 (78.6%)	-11.8% (-18.0, -5.6)	
Reason for Failure: Asymptomatic bacteriuria	47 (12.7%)	16 (3.9%)		
Clinical Response (TOC)	300/370 (81.1%)	349/415 (84.1%)	-3.0% (-8.4, 2.3)	
Overall Response (EOT)	240/370 (64.9%)	271/415 (65.3%)	-0.4% (-7.1, 6.2)	
Combined (Quinolone Susceptible and Non-susceptible Populations) (MITTR+MITTS)				
Overall Response (TOC)	339/517 (65.6%)	376/554 (67.9%)	-2.3% (-7.9, 3.3)	
Reason for Failure: Asymptomatic bacteriuria	74 (14.3%)	54 (9.7%)		
Clinical Response (TOC)	422/517 (81.6%)	436/554 (78.7%)	2.9% (-1.9, 7.7)	
Overall Response (EOT)	335/517 (64.8%)	313/554 (56.5%)	8.3% (2.4, 14.1)	0.006

Methods. 1,671 adult women with pyuria, bacteriuria, and signs and symptoms of uUTI were randomized to sulopenem etzadroxil/probenecid bid for 5 days or ciprofloxacin bid for 3 days. Two independent primary analyses, each with a separate alpha assigned, were incorporated into the design of the study with the primary endpoint being overall success (combined clinical and microbiologic success) at the Test of Cure (TOC) visit. In the micro-MITTR population (patients with baseline pathogen resistant to ciprofloxacin), sulopenem was compared for superiority over ciprofloxacin; in the micro-MITTS population (patients with baseline pathogen susceptible to ciprofloxacin), the two agents were compared for non-inferiority. Using a pre-specified hierarchical testing procedure (Westfall 2001), the primary efficacy endpoint was then to be further tested if either superiority or non-inferiority was declared in the MITTR or MITTS populations, respectively.

Results. In the micro-MITTR population, sulopenem demonstrated superiority to ciprofloxacin ($p < 0.001$). In the micro-MITTS population, sulopenem was not non-inferior to ciprofloxacin for the primary endpoint, driven primarily by the higher rate of asymptomatic bacteriuria post treatment in patients on sulopenem. In the combined analysis of all randomized patients with an organism identified at baseline (MITTR+MITTS), sulopenem was non-inferior to ciprofloxacin.

Treatment emergent adverse events occurred more frequently in sulopenem patients (all, 24.8% vs 13.9%; related, 17.0% vs 6.2%), accounted for by a higher incidence of self-limited diarrhea (12.4% vs 2.5%). Serious adverse events were similar on each regimen.

Conclusion. Sulopenem was superior to ciprofloxacin for the treatment of adult women with uUTI due to quinolone non-susceptible pathogens. Sulopenem was not non-inferior in the treatment of quinolone susceptible pathogens, driven by a lower rate of asymptomatic bacteriuria in patients receiving ciprofloxacin, but was non-inferior in the combined population of patients.

Disclosures. **Michael W. Dunne, MD**, **Iterum Therapeutics** (Employee, Shareholder) **Anita F. Das, PhD**, **Iterum Therapeutics** (Consultant) **Michael Zelasky, BS**, **Iterum Therapeutics** (Employee) **Karthik Akinapelli, BS**, **Iterum Therapeutics** (Employee) **Steven I. Aronin, MD**, **Iterum Therapeutics** (Employee)

LB-2. Relative Effectiveness of aIIV3 versus IIV4 and HD-IIV3 In Preventing Influenza-Related Medical Encounters in Adults ≥65 Years of Age at High Risk for Influenza Complications During the U.S. 2017–2018 and 2018–2019 Influenza Seasons

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Session: LB1. Late Breaking Abstracts
Saturday, October 24, 2020: 10:00 AM

Background. Individuals with health conditions have shown higher rates of influenza-related morbidity and mortality compared to healthy individuals and are often prioritized for influenza vaccination. However, vaccination with egg-derived standard quadrivalent inactivated influenza vaccines (IIV4) has shown to be less effective in adults ≥65 years of age largely due to immunosenecence. Two enhanced vaccines, the MF59*-adjuvanted trivalent inactivated influenza vaccine (aIIV3) and a high-dose trivalent inactivated influenza vaccine (HD-IIV3), were developed to provide adults ≥65 years with increased protection. The objective of this study was to determine the relative vaccine effectiveness (rVE) of aIIV3 versus IIV4 and HD-IIV3 in preventing influenza-related medical encounters in high-risk adults ≥65 years.

Methods. A retrospective cohort study was conducted among adults ≥65 years with ≥1 health condition with a record of receiving either aIIV3, IIV4 or HD-IIV3 in the 2017–18 or 2018–19 influenza seasons. Patient-level electronic medical records linked to pharmacy and medical claims were used to ascertain exposure, outcome and covariate information. The primary outcome was influenza-related medical encounters in primary care and hospital (ICD-10 codes J09*–J11*). Inverse probability of treatment weighting was used to obtain odds ratios (ORs) adjusted for age, sex, race, ethnicity, geographic region, comorbidities and week of vaccination for each health condition. rVE was determined using the formula (1-OR)*100 and reported with 95% confidence intervals (CI).

Results. Overall, 1,755,420 individuals with ≥1 health condition were included for analysis in the 2017–18 season and 2,055,012 individuals in the 2018–19 season. In both seasons, high-risk subjects who received aIIV3 had statistically significantly greater reduction in influenza-related medical encounters as compared to IIV4 (Table 1). Non-statistically significant estimates preclude definitive conclusions for comparisons with HD-IIV3.

Table 1. Adjusted relative vaccine effectiveness (rVE) of aIIV3 versus comparators in high-risk patients in the 2017–2018 and 2018–2019 influenza seasons in the U.S.

Comorbidity	2017-2018 aIIV3 (n= 168,125) vs.		2018-2019 aIIV3 (n= 328,227) vs.	
	IIV4 n= 360,379	HD-IIV3 n= 1,226,916	IIV4 n= 351,260	HD-IIV3 n= 1,375,525
Chronic Pulmonary Disease	3.7 (-3.3, 10.2)	-2.8 (-17.4, 10.1)	15.5 (8.3, 22.1)	-2.7 (-12.4, 6.2)
Asthma*	4.9 (-5.4, 14.2)	-1.3 (-23.0, 16.5)	17.4 (6.7, 26.7)	-7.1 (-21.8, 5.9)
Myocardial Infarction or Congestive Heart Failure	5.7 (-5.8, 16.0)	-7.5 (-35.5, 14.6)	16.8 (5.7, 26.6)	2.1 (-14.9, 16.5)
Cerebrovascular Disease or Peripheral Vascular Disease	2.1 (-6.6, 10.0)	-8.0 (-27.4, 8.4)	18.9 (10.6, 26.4)	4.3 (-7.4, 14.8)
Renal Disease	9.6 (-1.9, 19.9)	-0.6 (-28.0, 20.8)	10.8 (-0.6, 20.9)	-2.7 (-20.5, 12.6)
Diabetes (Chronic or Not Chronic)	6.9 (0.9, 12.5)	-0.6 (-13.1, 10.6)	21.8 (16.0, 27.3)	4.0 (-4.4, 11.7)
Any Malignancy or Metastatic Solid Tumors	7.6 (-1.9, 16.2)	-6.3 (-27.6, 11.5)	22.1 (9.2, 33.3)	3.8 (-9.3, 15.2)
HIV/AIDS	31.6 (-203.0, 84.6)	55.1 (-402.5, 96.0)	37.8 (-55.5, 75.1)	22.0 (-148.8, 75.6)
Rheumatic Disease	4.1 (-9.9, 16.5)	1.8 (-26.9, 24.0)	14.3 (-3.8, 29.3)	-2.6 (-21.8, 13.6)
Mild, Moderate or Severe Liver Disease	1.6 (-19.0, 18.6)	-10.5 (-60.0, 23.7)	5.3 (-16.1, 22.8)	-10.7 (-40.8, 12.9)
At least one Health Condition	**7.1 (3.3, 10.8)**	**-0.8 (-8.9, 6.6)**	**20.4 (16.2, 24.4)**	**2.7 (-2.7, 7.8)**

* Category of Chronic Pulmonary Disease

Conclusion. The results of this study support the use of aIIV3 in adults ≥65 years of age at high risk for influenza complications and provides further evidence supporting aIIV3 as an effective public health measure against influenza.

Disclosures. **Lauren Fischer, M.A.**, **Seqirus** (Consultant) **Dan O'Brien, BA**, **Seqirus** (Consultant) **Joseph Vasey, PhD**, **Seqirus** (Consultant) **Gregg C. Sylvester, MD**, **Seqirus** (Employee) **James A. Mansi, PhD**, **Seqirus** (Employee)

LB-3. Oral Tebipenem Pivoxil Hydrobromide is Non-inferior to IV Ertapenem in Complicated Urinary Tract Infection (cUTI) and Acute Pyelonephritis (AP) – Results from the Pivotal ADAPT-PO Study

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Background. Tebipenem pivoxil hydrobromide (TBP-PI-HBr) is an orally bioavailable prodrug that is rapidly converted in plasma to the carbapenem, tebipenem.