2364. Evaluation of Renal Function Changes in Patients With Prolonged Telavancin Therapy (>21 Days): Results From the Telavancin Observational Use Registry (TOUR™)

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Background. Telavancin (TLV) is a lipoglycopeptide antibacterial active against a wide range of Gram-positive organisms, including methicillin-susceptible and methicillin-resistant *Staphylococcus aureus*. New onset or worsening renal impairment was observed in phase 3 clinical trials. This analysis was conducted to better understand changes in renal function from real-world experience during prolonged TLV therapy.

Methods. Data from the Telavancin Observational Use Registry (TOUR™)—a multicenter chart review to characterize types of infection, pathogens, and outcomes of patients treated with TLV in clinical practice—were used to characterize a subset of patients with prolonged TLV therapy duration defined as treatment >21 days. Patient demographics, pathogens, outcomes, and adverse events (AEs) were analyzed. Clinical outcomes were determined by investigator assessment. Creatinine clearance (CrCl) was estimated by Cockcroft-Gault for all patients with serum creatinine measurements at baseline and end of TLV therapy. CrCl values were grouped as ≤30, >30–50, >50–80, and >80 mL/minute; categorical changes from baseline were classified and compared.

Results. A total of 308/1063 patients were treated with TLV for >21 days. At baseline, patients had a median CrCl of 113.4 mL/minute. Median TLV dose was 750 mg (range 254–1,500 mg) or 8.3 mg/kg (range 2.2–15.0 mg/kg); and median treatment duration was 38 days (range 22–185 days). The 2 most commonly treated infection types were bone and joint infections (55.2%) and complicated skin and skin structure infections (25.6%). A total of 121 (39.3%) patients had methicillin-resistant *S. aureus*. TLV was used as second-line or greater therapy in 235 (76%) patients, and the majority of patients (65.6%; $n = 202$) were treated as outpatients prior to starting TLV. Of the 308, 134 reported baseline and end of TLV therapy CrCl. CrCl was unchanged in the majority of patients (68.7%; $n = 92$), 9 (6.7%) improved, and CrCl decreased in 33 (24.6%) patients. A total of 25 (8.1%) patients reported renal AEs.

Conclusion. In the subset of patients with baseline and end of TLV therapy CrCl, renal function was unchanged in the majority of patients with prolonged TLV therapy >21 days.

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2365. Post-operative Vertebral Osteomyelitis—A Disease With Distinct Clinical and Microbiological Characteristics

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Background. A relevant subgroup (10–14%) of patients with vertebral osteomyelitis (VO) has a history of spine surgery. Infection in these patients is often caused by coagulase-negative staphylococci (CoNS) might be clinically different from native VO. However, clinical, microbiological and outcome characteristics of this disease entity have not been well studied as most trials either excluded these patients or are limited by a small cohort and short observation period.

Methods. Between January 2008 and June 2013 patients who presented to the Department of Orthopaedics at the University Hospital of Cologne with suspected VO were prospectively enrolled into the international registry Spine Tango and observed for a period of 2 years. Survival was estimated by the Kaplan–Meier method. In addition, univariable and multivariable Cox regression models were fitted to estimate unadjusted and adjusted effect of surgery. Group comparisons between patients with or without prior surgery were performed using Fisher's exact test or Mann–Whitney U test.

Results. 56 of 189 patients with confirmed diagnosis of VO reported a history of spine surgery in the same segment. Patients with native vertebral osteomyelitis (NVO) had a higher ASA score ($P = 0.01$), were more likely to suffer from comorbidities ($P = 0.003$) and had *Staphylococcus aureus* identified as causative infectious agent in the majority of cases (34 vs. 18%, $P = 0.024$). Infections caused by CoNS (20 vs. 4%, $P < 0.001$) and other bacteria of the skin flora were more prevalent in patients with post-operative VO (9 vs. 0%, $P = 0.002$). After a median follow-up of two years, univariable Cox regression revealed that patients with NVO had a 3-fold increased mortality risk compared with patients with prior surgery (HR, 3.3, 95% CI, 1.4–7.9, $P = 0.006$). The magnitude of the effect size remained stable in the multivariable model (HR 3.023, 95% CI 1.259–7.257, $P = 0.013$), adjusted for ASA score and number of comorbidities.

Conclusion. NVO and post-operative VO show distinct disease characteristics. Patients with NVO more often have comorbidities, have mainly *S. aureus* as causative pathogen and a 3-fold increased 2-year mortality risk compared with patients with post-operative VO.

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2366. Treatment Characteristics and Predictors of Mortality in Patients With Infected Chronic Pressure Ulcers in Detroit

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Background. Infected chronic pressure ulcers (ICPUs) are difficult to treat and associated with poor patient outcomes. The objective of this study was to describe ICPU management characteristics and to identify risk factors for all-cause 30-day mortality at a large urban health-system.

Methods. This was an IRB approved, cross-sectional study of adult patients with an ICPU diagnosis who were hospitalized and treated with systemic antimicrobials from June 2013–June 2017. The primary study endpoint was all-cause 30-day mortality after or at discharge. Patient, infection, and treatment characteristics were compared between groups.

Results. 225 patients were included: median (IQR) age was 69 (55–83) years and 54% were male. 192 (85%) patients had at least 1 infection-related symptom. Most common ICPU sites were: 132 (59%) sacrum, 41 (18%) lower extremity, 29 (13%) ischium, 4 (2%) other location, and 19 (8%) multiple sites. 207 (92%) of ICPUs were staged in the medical record: 10 (4%) stage II, 26 (12%) stage III, 112 (50%) stage IV, and 68 (30%) unstageable. 189 (84%) patients had ICPU cultures obtained: 107 (56%) were quality cultures, 48 (25%) were superficial/unknown culture type, and 35 (18%) had both. 161 (71%) patients received concomitant surgical intervention, and the majority received empiric antibiotic therapy with anti-MRSA (210, 93%) and anti-pseudomonal (186, 83%) agents. Organisms were identified in 131 (58%) patients, and antimicrobial de-escalation was performed in 38 (40%) patients without cultures or who were culture-negative. The median (IQR) duration of antibiotic treatment was 18 (10–36) days. 46 (20%) patients died within 30-days of or at discharge. When accounting for severity of illness and functional status, obtaining quality ICPU cultures was protective against 30-day all-cause mortality (Table 1). Of eligible patients, 58/183 (32%) were re-hospitalized for any reason 30-days post discharge, and 21/58 (36%) were re-hospitalized secondary to ICPU.

Conclusion. General ICPU management is varied and empiric broad-spectrum antimicrobials are frequently used. Patients with ICPUs frequently had poor outcomes. Obtaining quality ICPU cultures was associated with decreased mortality and may help clinicians guide appropriate antimicrobial therapy.

Table 1. Variables associated with 30-day mortality	30-day mortality *n*=46	Alive at 30-days *n*=179	Crude OR (95% CI)	Adjusted OR (95% CI)
Braden Score < 10	18/34 (53%)	19/137 (14%)	7.0 (3.0-16.0)	10.2 (3.5-29.9)
Bacteremia secondary to ICPU	12 (26%)	12 (7%)	4.9 (2.0-11.9)	7.3 (2.0-26.2)
ICU on Admission	17 (37%)	32 (18%)	2.7 (1.3-5.5)	3.1 (0.98-9.7)
Quality ICPU culture, any	21 (56%)	121 (68%)	0.3 (0.2-0.7)	0.3 (0.1-0.8)
Age-adjusted Charlson comorbidity index ≥ 5	41 (89%)	108 (60%)	5.4 (1.0-14.3)	Not tested
Age ≥ 65 years	38 (83%)	98 (55%)	3.9 (1.7-8.9)	Not tested
Active hematologic disease	7 (15%)	10 (6%)	3.0 (1.1-8.5)	Not tested
Negative change in Braden Score from admission	14/34 (41%)	33/137 (24%)	2.2 (1.0-4.8)	Not tested
Dementia	18 (39%)	39 (22%)	2.3 (1.2-4.6)	Not tested
Concomitant infection	7 (15%)	19 (11%)	1.5 (0.6-3.8)	Not tested
Surgical management of ICPU	32 (70%)	129 (72%)	0.9 (0.4-1.8)	Not tested
Infection with MDRO ICPU	10 (22%)	50 (28%)	0.7 (0.3-1.6)	Not tested
Infectious Diseases Consult	38 (83%)	163 (91%)	0.5 (0.2-1.2)	Not tested

Abbreviations: ICPU, infected chronic pressure ulcer; ICU, intensive care unit; MDRO, multi-drug resistant organism

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2367. Infection Incidence and Utilization of Antimicrobials in Physician Office Infusion Centers (POICs)

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Background. POICs offer a controlled setting for safe and effective outpatient treatment of moderate to severe infections with intravenous antimicrobial agents (IVAA) and agents used in treatment of *Clostridium* difficile infection (CDI). These therapies are provided via in-office or home administration. This study provides an overview of nationwide incidence of outpatient infections and utilization of IVAAs through POICs.