study to demonstrate that EI piperacillin/tazobactam dosing significantly reduces rates of AKI in patients on concomitant vancomycin.

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## 61. Evaluation of the Impact of a Micafungin Time-Out Protocol for Hospitalized Patients

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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

**Background:** Echinocandin overuse is associated with increased prevalence of non-albicans Candida spp, resistance, and high costs. Prospective review of micafungin prescribing by an Antimicrobial Stewardship Pharmacist (ASP) has shown reduced rates of inappropriate therapy. The aim of this study was to describe ASP's interventions following introduction of a micafungin time out (MTO) protocol.

**Methods:** The approved MTO protocol was implemented in November 2019. Active micafungin orders for hospitalized patients were reviewed Monday through Friday at initiation and on day five. The MTO algorithm assessed micafungin use based on patient risk factors for *Candida* infection and de-escalation was guided by clinical status, culture data, and susceptibility testing. Micafungin use and ASP's interventions were reviewed post-implementation between 12/01/2019 and 02/29/2020. Micafungin use was also characterized between 12/01/2018 and 02/28/2019 to serve as a control.

**Results:** A random sample of 50 patients who received micafungin for  $\geq$  48 hours during the pre- and post- protocol periods were included. 39 (78%) and 38 (76%) patients in the pre- and post-MTO cohort had indications for micafungin initiation according to algorithm. In the post-MTO group, 9 (75%) of the 12 micafungin initiations outside of algorithm approval were intervened on successfully by the ASP, increasing appropriate antifungal therapy to 47 (94%) patients. On day five, 18 (50%) and 25 (65.8%) (p=0.17) micafungin orders were according to algorithm in the pre- and post-MTO groups, respectively. Culture data on day five revealed 18 (50%) in the pre-MTO and 13 (34.2%) in the post-MTO group were eligible for de-escalation. An ASP-initiated MTO on day five identified 23 opportunities for antifungal therapy optimization in the post-MTO group. Interventions included de-escalation (13, 61.9%), discontinuation (6; 28.6%), and dose optimization (4; 19%). Of the 23 ASP interventions on day 5, 10 (43.4%) led to micafungin discontinuation or de-escalation, increasing the overall antifungal appropriateness to 35 (92.1%) patients.

**Conclusion:** An ASP-initiated MTO can facilitate appropriate and timely optimization of antifungal therapy. The most frequent interventions were de-escalation from micafungin or therapy discontinuation.

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## 62. Factors Associated with 30-Day ED Readmission Following Initial ED Discharge for Suspected Sepsis

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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

**Background:** Given the increased mortality associated with delayed recognition of sepsis, emergency departments (ED) often use protocols to rapidly identify and treat suspected sepsis. However, screening criteria such as systemic inflammatory response syndrome (SIRS) lack specificity and may over-diagnose sepsis in patients otherwise stable for discharge. Our study describes outcomes and identifies factors associated with ED readmission in those initially discharged directly from the ED who met sepsis criteria.

*Methods:* This retrospective cohort study evaluated adult patients (≥ 18 years) seen in the ED at UTSW Medical Center from January to June 2018 who met all the following: ≥ 2 SIRS criteria; received ≥ 1 dose of intravenous (IV) broad-spectrum antibiotic(s) in the ED; were discharged home. A multivariable logistic regression model identified factors associated with 30-day re-admission to our ED, using clinically significant variables parsimoniously. A two-sided P value < 0.05 was considered significant.

**Results:** A total of 179 patients were included. Forty-four patients (25%) returned to the ED within 30 days of their initial visit; of those 44, 63.6% (28) returned for issues related to their prior visit, and 50% (22) were admitted to the hospital. Table 1 compares baseline demographics of patients with suspected sepsis readmitted to the ED with those not readmitted within 30 days after initial ED discharge. In univariable analysis, quick Sequential Organ Failure Assessment (qSOFA), and length of antibiotic therapy (ED plus discharge antibiotics) were associated with ED re-admission (table 1). Receipt of antibiotics on discharge was not significant. In the final multivariable analysis (table 2), initial qSOFA ≥ 2 alone was associated with increased risk of ED re-admission (OR 7.5, p=0.01).

Table 1. Baseline demographics of patients readmitted and not readmitted to the ED within 30 days after ED discharge with suspected sepsis

| Group   | Readmitted to ED | Not readmitted | p-value |
|---|------------------|----------------|---------|
|   | within 30 d      | within 30 d    |         |
|   | (n = 44)         | (n = 135)      |         |
| Age, years, median (IQR)                        | 48 (30-59)       | 51 (36-65)     | 0.21    |
| Male, n (%)                                     | 15 (34.1)        | 48 (35.6)      | 0.86    |
| Race, n (%)                                     |                  |                | 0.50    |
| White   | 12 (27.3)        | 48 (35.6)      |         |
| Black   | 19 (43.2)        | 47 (34.8)      |         |
| Hispanic  | 9 (20.5)         | 33 (24.4)      |         |
| Other   | 4 (9.1)          | 7 (5.2)        |         |
| Chemotherapy within 30 d, n (%)                 | 9 (20.5)         | 16 (11.9)      | 0.15    |
| SOT or HCST transplant, n (%)                   | 9 (20.5)         | 17 (12.6)      | 0.20    |
| Immunosuppression, n (%)                        | 1 (2.3)          | 6 (4.4)        | 0.52    |
| SIRS criteria on initial ED admission, n (9     |                  |                | 0.46    |
| 2   | 28 (63.6)        | 94 (69.6)      |         |
| 3   | 13 (29.5)        | 48 (25.9)      |         |
| 4   | 3 (6.8)          | 6 (4.4)        |         |
| Quick SOFA score on initial ED admission, n (%) |                  |                | 0.01    |
| 0   | 19 (43.2)        | 82 (60.7)      |         |
| 1   | 19 (43.2)        | 49 (36.3)      |         |
| 2   | 6 (13.6)         | 4 (2.9)        |         |
| >2  | 0                | 0              |         |
| Confirmed bacterial infection at initial        | 7 (15.9)         | 28 (20.7)      | 0.48    |
| ED admission, n (%)                             |                  |                |         |
| Suspected bacterial infection at initial        | 20 (45.5)        | 60 (44.4)      | 0.91    |
| ED admission, n (%)                             |                  |                |         |
| Absence of bacterial infection at initial       | 17 (38.6)        | 47 (34.8)      | 0.65    |
| ED admission, n (%)                             |                  |                |         |
| Length of total antibiotic therapy at           | 6 (1-8)          | 8 (1-11)       | 0.03    |
| initial ED admission, days, median              |                  |                |         |
| (IQR)   |                  |                |         |
| Discharged on antibiotics at initial ED         | 26 (59.1)        | 98 (72.6)      | 0.09    |
| admission, n (%)                                |                  |                |         |
| Site of infectious diagnosis, n (%)             |                  |                | 0.14    |
| Respiratory                                     | 13 (29.6)        | 34 (25.2)      |         |
| Skin  | 4 (9.1)          | 8 (5.9)        |         |
| Abdominal                                       | 4 (9.1)          | 15 (11.1)      |         |
| Genitourinary                                   | 12 (27.3)        | 62 (45.9)      |         |
| Central nervous system                          | 0 (0)            | 1 (0.7)        |         |
| Other   | 11 (25.0)        | 15 (11.1)      |         |

Table 2. Multivariable logistic regression of risk factors for patients readmitted and not readmitted to the ED within 30 days after ED discharge with suspected sepsis

| Variable  | OR (95% CI)       | p-value |
|---|-------------------|---------|
| Quick SOFA score on initial ED admission          |                   |         |
| 0   | Reference         |         |
| 1   | 1.63 (0.78-3.46)  | 0.26    |
| 2   | 7.50 (1.85-30.39) | 0.01    |
| Discharged on antibiotics at initial ED admission | 0.57 (0.27-1.19)  | 0.14    |
| Chemotherapy within 30 d                          | 2.05 (0.81-5.18)  | 0.13    |
| SOT or HCST transplant                            | 1.92 (0.75-4.88)  | 0.17    |

**Conclusion:** In this cohort, 25% of patients with suspected sepsis initially discharged from the ED were readmitted to our ED within 30 days. A qSOFA  $\geq$  2 at the initial ED visit was associated with increased risk of readmission, suggesting a potential use of qSOFA to triage those warranting admission or closer follow-up. Larger prospective studies are warranted in this understudied population of patients who meet screening sepsis criteria but are discharged from the ED.

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## 63. Frequency and Outcomes of Patients Prescribed Antibiotics for Extended Durations on Discharge from the Hospital to Nursing Homes

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Session: P-3. Antimicrobial Stewardship: Outcomes Assessment (clinical and economic)

**Background:** Nursing home (NH) residents are at increased risk of being prescribed antibiotic for extended durations and experiencing antibiotic-associated adverse events. However, many of these antibiotics are prescribed in the hospital prior to NH admission. We quantified the frequency, characteristics and outcomes of patients receiving antibiotic treatment in the hospital and discharged to NHs with an antibiotic prescription for greater than 7 days.