Urinary Tract Infections due to Multi-Drug Resistant Organisms: Results of an Emerging Infections Network Survey

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INTRODUCTION

Urinary Tract Infections (UTIs) are commonly encountered in both the community and hospitalized setting. UTIs that involve Multi-Drug Resistant Organisms (MDROs) are increasing, regardless of setting (community- or hospital-acquired), age, sex, or country[1, 2]. The increase in incidence has allowed the scientific community to study the factors associated with UTIs involving MDRO, but currently there is only limited data to guide the management of patients with this problem[3]. Issues such as threshold for initiating treatment, selection of antibiotic, route of administration, and duration, among others have not been studied. .

We hypothesized that there is substantial heterogeneity in management of UTIs due to MDROs.

Our objective was to attain a better understanding of the experience that U.S. Infectious Diseases (ID) physicians have with managing MDRO UTIs.

METHODS

A nine-question survey assessing perceptions and practices when managing MDRO UTIs was sent to members of the Emerging Infections Network (EIN) between September 9 and September 24, 2013 (*see Handout*).

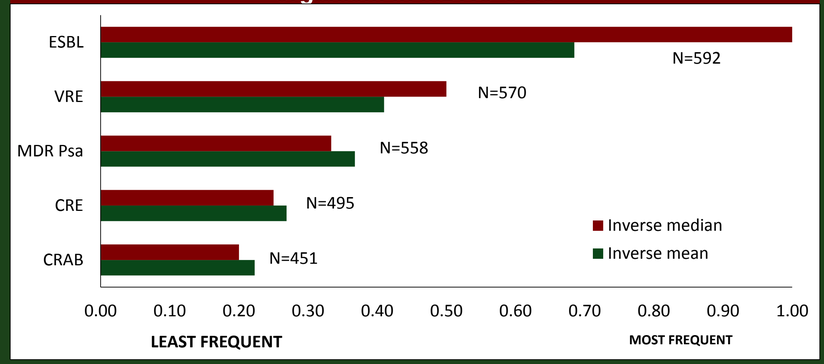
The questions were designed to address the following aspects of physicians experience with MDRO UTUs:

- Epidemiology
- Perceptions and Behaviors
- Experience with Fosfomycin

EPIDEMIOLOGY

- 714 out of 1,481 EIN members responded to the survey (49%).
- The respondents represent adult ID (526, 74%), pediatric ID (159, 22%), or combined adult-pediatric providers (29, 4%).
- Pediatric ID providers were less likely to have treated an MDRO UTIs during the last three years when compared to adult ID providers (25% vs. 13%, p=0.001).
- Most adult and pediatric ID providers perceived an increase in the incidence of MDRO UTIs during that period (75% and 63%, respectively).
- The most frequently encountered organisms are included in **Figure 1.**

Figure 1. Provider perception of most frequently encountered organism in MDRO UTIs



PERCEPTIONS AND BEHAVIORS

- 184 (25%) order a repeat urine culture as “proof of cure”.
- 168 (23%) prefer intravenous antimicrobials.
- 28% (n = 203) endorsed a preference for a longer duration of therapy to treat an MDRO when compared with a susceptible isolate of the same species. **Figure 2** and **Figure 3**.
- 11% perceive MDRO UTIs to be more severe than non-MDRO UTIs.

Figure 2. Usual duration of therapy for lower UTI

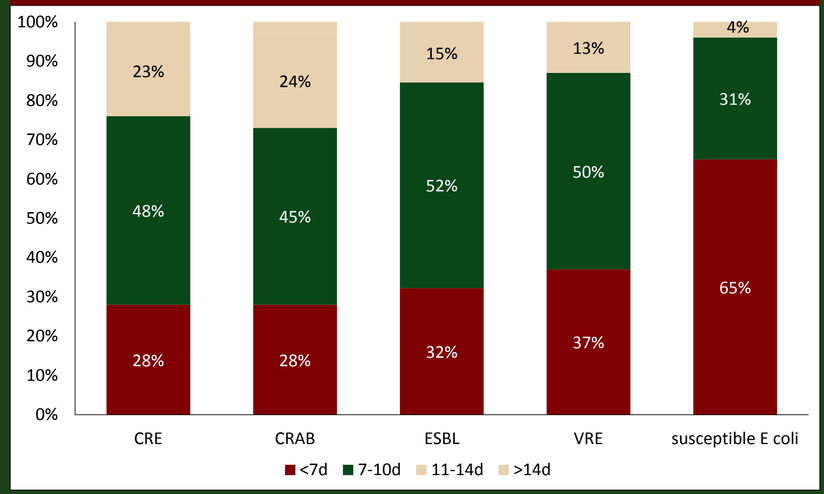
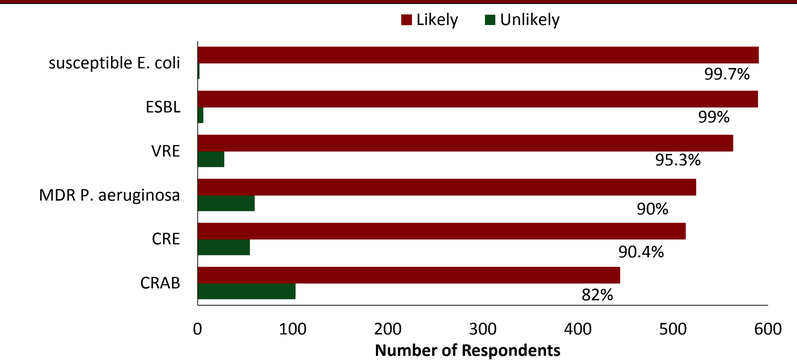


Figure 3. Likelihood of Clinical Resolution



FOSFOMYCIN

- Fosfomycin use for MDRO UTIs was reported by 55% of adult and 13% of pediatric ID providers.
- Fosfomycin practice patterns varied significantly, but a single dose (16%,) was the most frequently prescribed treatment.

CONCLUSIONS

- Respondents perceive that MDRO UTIs are increasing in frequency.
- There is significant variation in MDRO UTI management.
- Although MDRO UTIs are perceived to be similar in severity as UTIs with susceptible organisms, in practice physicians treat MDRO UTIs differently: nearly one fourth of providers prefer IV over PO medication, choose longer durations, and obtain “proof of cure” cultures.
- There is limited experience in the ID community with fosfomycin as a treatment option for MDRO UTIs.

REFERENCES

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