848. Low-Bioavailability vs. High-Bioavailability Oral Antibiotics for the Definitive Treatment of Enterobacteriaceae Bacteremia from Suspected Urine Source in Hospitalized Veterans

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Table 1 – Patient characteristics

| Characteristic | Blood Culture Negative (n=322) | Blood Culture Positive (n=102) | AS (n=22) |
|---------------|-------------------------------|-------------------------------|------------|
| Median age (y) (IQR) | 64 (47-79) | 66 (43-72) | 66 (47-77) |
| Sex (M/F) | 140/182 | 54/48 | 11/11 |
| Contribution, (%) | 57 (22) | 31 (21) | 27 (30) |
| Cause | 38 (28) | 36 (27) | 11 (25) |
| Chronic obstructive pulmonary disease | 28 (26) | 12 (12) | 11 (25) |
| Congestive heart failure | 21 (17) | 19 (19) | 10 (23) |
| Malignancy | 14 (11) | 14 (14) | 11 (25) |
| Immunosuppression | 3 (2) | 3 (3) | 0 (0) |
| Intercurrent drug use | 19 (15) | 5 (5) | 1 (2) |
| Current/previous diabetes | 20 (16) | 12 (12) | 8 (18) |
| Central venous access | 13 (10) | 12 (12) | 0 (0) |
| Anemia | 11 (8) | 11 (11) | 6 (14) |
| Characteristics in the Emergency Department, (n, %) | | | |
| Shortness of breath ≥ 20 mmHg | 185 (93) | 88 (43) | 5 (23) |
| Temperature ≥ 38°C | 125 (67) | 42 (21) | 8 (36) |
| Oxygen saturation ≤ 90% | 100 (53) | 39 (19) | 7 (32) |
| Urine Blood Cell Count ≥ 106/mL | 77 (42) | 18 (9) | 5 (23) |
| Rales ≥ 3 | 77 (42) | 17 (8) | 6 (27) |
| Diastolic BP < 90 | 74 (41) | 8 (4) | 3 (14) |
| Temperature ≤ 36°C | 62 (34) | 10 (5) | 1 (5) |
| Other | 8 (5) | 4 (2) | 0 (0) |

Blood cultures obtained prior to administration of empiric antimicrobial therapy; specimens grossing contaminant(s) only were tested in source.

Internal range

*Temporal factors were defined as requiring non-invasive ventilation (RPNV) or invasive ventilation (intubated/ventilated).

*The Supplementary Appendix for a complete list of all antimicrobial regimens used

**Deviated <0.05, ***Deviated <0.005, between groups, identified by Fisher’s Exact Test.

Results.

We sought to characterize the pathogens among patients who experienced an infection in the current era.

Methods.

All patients undergoing CIED replacement, upgrade, revision, or de novo cardiac resynchronization therapy (CRT-D) received standard of care antibiotic prophylaxis and were randomized 1:1 to receive TYRX or not. The primary endpoint was major CIED infection within 12 months of the procedure. Major infection was defined as an infection resulting in (1) system extraction or revision, (2) long-term suppressive antibiotic therapy; or (3) death. Data were analyzed using the Cox proportional hazards regression model.

Results.

A total of 6,983 patients were randomized worldwide with 3,495 randomized to receive an envelope and 3,488 randomized to the control group. At 12 months, 25 major infections (0.7%) were observed in the envelope group and 42 major infections (1.2%) in the control group, resulting in a 40% reduction of major infections (HR 0.60, 95% CI 0.36–0.98, P = 0.04). Of 63 infections assayed, causative pathogens were identified in 36 infections whereas cultures were negative in 27 cases. Staphylococcus species (n = 22) were the predominant pathogens and a 53% reduction was observed with the use of TYRX (Figure 1). Moreover, there was only 1 CIED pocket infection with the use of TYRX (0.7%) LOW and 82 (2.6%) HIGH (aRR 1.0, 95% CI, 0.66–1.52; RD 0%). Similar outcomes were observed at 90 days.

Disclosures.

All Authors: No reported Disclosures.

849. Reduced CIED Infections with an Antibacterial Envelope: Microbiologic Analysis of the WRAP-IT Study

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Background.

Cardiovascular implantable electronic device (CIED) infections are associated with significant morbidity, mortality, and cost. There is limited evidence on antibiotic prophylactic strategies to prevent CIED infection. Recently, the TYRX Envelope, which elutes a combination of rifampin and minocycline for a minimum of 7 days, was shown to significantly reduce major CIED infections in the WRAP-IT trial. We sought to characterize the pathogens among patients who experienced an infection in the current era.

Methods.

All patients undergoing CIED replacement, upgrade, revision, or de novo cardiac resynchronization therapy (CRT-D) received standard of care antibiotic prophylaxis and were randomized 1:1 to receive TYRX or not. The primary endpoint was major CIED infection within 12 months of the procedure. Major infection was defined as an infection resulting in (1) system extraction or revision, (2) long-term suppressive antibiotic therapy; or (3) death. Data were analyzed using the Cox proportional hazards regression model.

Results.

A total of 6,983 patients were randomized worldwide with 3,495 randomized to receive an envelope and 3,488 randomized to the control. At 12 months, 25 major infections (0.7%) were observed in the envelope group and 42 major infections (1.2%) in the control group, resulting in a 40% reduction of major infections (HR 0.60, 95% CI 0.36–0.98, P = 0.04). Of 63 infections assayed, causative pathogens were identified in 36 infections whereas cultures were negative in 27 cases. Staphylococcus species (n = 22) were the predominant pathogens and a 53% reduction was observed with the use of TYRX (Figure 1). Moreover, there was only 1 CIED pocket infection with the use of TYRX (0.7%) LOW and 82 (2.6%) HIGH (aRR 1.0, 95% CI, 0.66–1.52; RD 0%). Similar outcomes were observed at 90 days.

Disclosures.

All Authors: No reported Disclosures.

850. Outcomes of Patients Discharged on Parenteral Ceftriaxone Compared with Oxacillin or Cefazolin in Methicillin-susceptible Staphylococcus aureus (MSSA) Bloodstream Infections

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Background.

Limited and conflicting data exist evaluating low-bioavailability oral antibiotics (LOW) for definitive treatment of Enterobacteriaceae bacteremia (EB), and existing dogma limits their use. We compared outcomes for EB from a suspected urinary source with LOW vs. high-bioavailability oral antibiotics (HIGH).

Methods.

This was a retrospective cohort study across Veterans Affairs hospitals from 2006 to 2015. Inclusion criteria were monomicrobial EB and matching urine culture; receipt of active, empiric parenteral antibiotic(s); and conversion to a single oral LOW or HIGH between treatment day 2 and 6. Exclusion criteria were EB in the previous year, prior urologic abscess, or chronic prostatitis. HIGH included fluoroquinolone or trimethoprim-sulfamethoxazole. LOW included oral β-lactams. The primary outcomes were all-cause 30-day mortality or recurrent EB. Patients were weighted using propensity-score-based overlap weights to make the groups more similar to each other at baseline.

Results.

A total of 4,090 patients met inclusion criteria with 955 LOW and 3,135 HIGH. The median days of parental antibiotics before conversion to oral antibiotics were 4 (IQR 3, 5) in LOW and 4 (IQR 3, 4) in HIGH. The composite primary outcome occurred in 42 (4.4%) LOW and 94 (3.0%) HIGH. The adjusted relative risk (aRR) of the composite primary outcome with LOW was 1.28 (95% CI 0.86–1.89; risk difference (RD) 0.9%). Recurrent EB within 30-days occurred in 14 (1.5%) LOW and 12 (0.4%) HIGH (aRR 3.24, 95% CI, 0.46–22.8; RD 0.9%). Thirty-day mortality occurred in 29 (3.0%) LOW and 82 (2.6%) HIGH (aRR 1.0, 95% CI, 0.66–1.52; RD 0%). Similar outcomes were observed at 90 days.

Conclusion.

There was no difference in the composite outcome of 30-day mortality or recurrent bacteremia comparing hospitalized patients who received LOW vs. HIGH for the definitive treatment of EB from a suspected urine source. While there was a nonsignificantly higher risk of 30-day recurrent EB with LOW, the absolute risk and risk difference were small, suggesting that definitive therapy with LOW may be considered. Future evaluation is needed to better understand risk factors for recurrent EB and which patients may fail LOW.

Disclosures.

All Authors: No reported Disclosures.