1.5%, 11.9%) (aggregate P = 0.04); median diarrheal recovery rate change = 11.8% [IQR: 8.8%, 18.2%] (aggregate P = 0.018).

Conclusion. In a 5-center study, toxin-dominant test result reporting decreased anti-C. difficile treatment and improved discharge rates and diarrheal recovery in toxic-/PCR+ patients. More work is needed to determine the rate of C. difficile-related adverse events in Toxic-/PCR+ patients.

Disclosures. All Authors: No reported Disclosures.

840. Clinical Failure Rates Associated with Hemade-induced Metronidazole Resistance in Clostridioides difficile
Anne J. Gonzalez-Luna, PharmD1; Wan-Jou Shen, MS2; Aditi Deshpande, MS1; Kiera M. Dotson, PharmD1; Chris Lancaster, MS3; Julian Hurdle, PhD1 and Kevin W. Garey, PharmD, MS1; 1University of Houston College of Pharmacy, Houston, Texas; 2TAMHSC/BT, Houston, Texas; 3Institute of Biosciences and Technology, Texas A&M Health Science Center, Houston, Texas; 4Xavier University of Louisiana College of Pharmacy, New Orleans, Louisiana; 5Texas A&M Health Science Center, Houston, Texas

Session: 81. Clostridium difficile
Thursday, October 3, 2019: 2:30 PM

Background. Current guidelines suggest limiting metronidazole (MTZ) use due to increased treatment failures in patients with Clostridioides difficile infections (CDI). We hypothesized that an increase in the minimum inhibitory concentration (MIC) of MTZ to C. difficile may contribute to these poor response rates. The objective of this study was to examine clinical response rates in patients with CDI based on MTZ MIC and stratified by receipt of MTZ treatment.

Methods. Clostridioides difficile-positive stool samples collected from 2017 to 2018 as part of routine care at two hospital systems in Houston, Texas were collected for MIC determination within 24 h to MTZ by broth microdilution following incorporation of 5 μg/mL of hemin. The primary outcome was clinical success by Day 7 of treatment in those with MICs ≤1 vs. >1. Results were stratified based on receipt of MTZ within 48 hours of diagnosis. Study objectives were tested using γ2 and multivariable logistic regression analyses.

Results. A total of 235 C. difficile samples were included, of which 73 (31%) had an MTZ MIC ≥1. Overall, 72% received MTZ within the first 48 hours. Clinical success rates differed based on disease severity (77% in nonsevere, 64% in severe/fulminant; P = 0.03) and infecting ribotype (52% in RT 027, 75% in non-RT 027; P = 0.014). In patients with MTZ receipt, clinical success rates were higher in patients infected with strains with an MTZ MIC <1 (76%) compared with those with an MIC ≥1 (60%; P = 0.031). The difference in initial clinical success was not different in those that did not receive MTZ (78% for MIC <1 vs. 65% for MIC ≥1, P = 0.28). After controlling for disease severity, treatment failure was higher in patients infected with strains with an MTZ MIC ≥1 and treated with MTZ (OR 2.1; 95% CI, 1.01–4.35; P = 0.048) but not for those with an MIC ≥1 treated with other therapies (OR 1.9; 95% CI, 0.62–5.6; P = 0.27).

Conclusion. This study provides the first preliminary evidence of an association between reduced metronidazole susceptibility and decreased clinical success rates. Larger studies are warranted to validate these findings.

Disclosures. All Authors: No reported Disclosures.

841. Implications of C. difficile Treatment on Environmental Contamination: A Randomized Controlled Trial with Microbiologic, Environmental, and Molecular Outcomes
Nicholas A. Turner, MD, MHS1; Maria Gergen, MT(ASCP)2; William Rutala, MS, MPH, PhD3; Daniel J. Sexton, MD4; Vance G. Fowler, Jr, MD, MHS5; Rachel Addison, MT (ASCP)6; MPH1 and Deverick J. Anderson, MD, MPH3; 1Duke University School of Medicine, Durham, North Carolina; 2UNC Health Care Systems, Snow Camp, North Carolina; 3UNC School of Medicine, Chapel Hill, North Carolina; 4Duke Center for Antimicrobial Stewardship and Infection Prevention, Durham, North Carolina; 5Duke University Medical Center, Durham, North Carolina

Session: 81. Clostridium difficile
Thursday, October 3, 2019: 2:45 PM

Background. Clostridioides difficile is a leading cause of healthcare-associated infection. Despite multimodal prevention efforts, in-hospital transmission continues to occur. In this study, we tested whether the choice of treatment can reduce C. difficile shedding and contamination of the inpatient environment.

Methods. We conducted a prospective, unblinded, randomized controlled trial of adult inpatients with C. difficile at Duke University Hospital. Thirty subjects were randomized 1:1:1 to receive metronidazole, vancomycin, or fidaxomicin. Stool specimens and environmental samples from five high-touch surfaces were serially collected throughout each subject’s hospital stay. Each specimen was assessed by quantitative culture and PCR ribotyping. Primary outcomes included the change over time in C. difficile stool burden and environmental contamination relative to treatment choice. As a secondary outcome, we examined the correlation between infecting strains and contaminating strains present in the care environment.

Results. Relative to metronidazole (Figure 1), C. difficile stool shedding decreased more rapidly for patients receiving vancomycin (P = 0.05) and most rapidly with fidaxomicin (P = 0.002). Treatment choice had no significant effect on total C. difficile colony counts across sites sampled over time (Figure 2). However, both vancomycin (P = 0.001) and fidaxomicin (P = 0.01) were associated with lower proportions of positive environmental cultures than metronidazole (Figure 3). Ribotyping of subjects’ stool isolates matched surrounding environmental isolates >90% of the time (Figure 4).

Conclusion. Fidaxomicin and vancomycin reduced C. difficile stool burden more rapidly than metronidazole. Environmental results were mixed: fidaxomicin and vancomycin were associated with fewer positive surface cultures, but no difference in total colony counts. High concordance between stool and environmental ribotypes confirms that most room contamination originated from study subjects, without a significant contribution from any additional sources. Treatment choice may have a role in reducing C. difficile contamination of the hospital environment. Further study is needed to assess for effect on disease incidence.

Disclosures. All Authors: No reported Disclosures.
Ebola response teams was fueled by perceived inadequacies of the response effort and resistance to control efforts, consistent with recent media reports. Mistrust of Ebola response, focus group participants provided eyewitness accounts of aggressive resistance towards Ebola response teams. Denial of the biomedical discourse and dissatisfaction/mistrust of the Ebola response were statistically significantly associated with indicators of social resistance.

Conclusion. We concluded that social resistance to Ebola control efforts was prevalent among focus group and survey participants. Mistrust, with deep political and historical roots in this area besieged by chronic violence and neglected by the outside world, may fuel social resistance. Resistant attitudes may be refractory to short-lived community engagement efforts targeting the epidemic but not the broader humanitarian crisis in Eastern DRC.

Disclosures. All Authors: No reported Disclosures.

842. Social Resistance Fuels Ebola Transmission in the Eastern Democratic Republic of Congo
Qasim Mian, MD, MBA1; Kaserka Masumbuko Claude, MBCB2; Jack Underschultz, BCom1 and Michael Hawkes, MD, PhD1;1University of Alberta, Edmonton, AB, Canada; 1Université Catholique de Graven, Butembo, Nord-Kivu, Congo (Congo – Kinshasa)
Session: 82. Global Health: Outbreaks, Controls, and Genetics
Thursday, October 3, 2019: 1:45 PM

Background. Recent outbreaks of Ebola virus disease in the Democratic Republic of the Congo (DRC) reinforce the desperate need to establish definitively the comparative safety and efficacy of different medical countermeasures (MCM).

Methods. Through a multipartner governance framework under WHO coordination, the Institut National de Recherche Biomedicale and NIAID collaborated with clinical partners (the MOH, ALIMA, MSF) to launch a randomized controlled trial in 2018 in the North Kivu/Ituri provinces of DRC. PCR+ participants receiving enhanced supportive care are being randomized 1:1:1:1 to receive either ZMapp® (control arm), remdesivir, mAB114, or REG-EB3 according to standard treatment regimens. Stratification is by site, country, and baseline nucleoprotein (NP) PCR cycle threshold (CT) ≤ 22 or > 22. The primary objective is a comparison of 28-day mortality relative to the control arm. The planned accrual is for 125 patients per arm. Secondary objectives include an evaluation of the comparative safety and tolerability of the 4 investigational MCMs, relative changes in viral load over time, comparisons of treatment efficacy according to baseline risk categories, 58-day mortality, RNA clearance from semen, and an assessment of the validity of drug-class comparisons, including efficacy. The study is monitored by an independent data and safety monitoring committee (DSMB).

Results. Enrollment commenced in the Ebola Treatment Unit in Beni in November, 2018, with sites in Butembo and Katwa added in early 2019. Time from study concept initiation to study start was only 3.5 months. Ongoing hurdles encountered to date include maintenance of cold chain requirements for the MCMs and marked volatility in the security situation surrounding sites affecting staff and patient safety. Despite these challenges, data quality and completed follow-up have been remarkably high and by mid-April, 2019, accrual to date (see table) had already surpassed the predefined threshold triggering an interim DSMB review.

Conclusion. Scientifically rigorous and ethically sound clinical research can take place during disease outbreaks even within a conflict zone. Results about the relative efficacy of the evaluated investigational MCMs are pending the completion of the trial.

Disclosures. All Authors: No reported Disclosures.

843. The PALM Consortium: A Multicenter, Multi-outbreak Randomized Controlled Trial of Ebola Virus Disease Therapeutics
Sabue Mulangu, MD; Institut National de Recherche Biomedicales, Kinshasa, Kinshasa, Congo (Congo – Kinshasa)
Session: 82. Global Health: Outbreaks, Controls, and Genetics
Thursday, October 3, 2019: 2:00 PM

Background. Recent outbreaks of Ebola virus disease in the Democratic Republic of the Congo (DRC) reinforce the desperate need to establish definitively the comparative safety and efficacy of different medical countermeasures (MCM).

Methods. Through a multi-partner governance framework under WHO coordination, the Inistut National de Recherche Biomedicale and NIAID collaborated with clinical partners (the MOH, ALIMA, MSF) to launch a randomized controlled trial in 2018 in the North Kivu/Ituri provinces of DRC. PCR+ participants receiving enhanced supportive care are being randomized 1:1:1:1 to receive either ZMapp® (control arm), remdesivir, mAB114, or REG-EB3 according to standard treatment regimens. Stratification is by site, country, and baseline nucleoprotein (NP) PCR cycle threshold (CT) ≤ 22 or > 22. The primary objective is a comparison of 28-day mortality relative to the control arm. The planned accrual is for 125 patients per arm. Secondary objectives include an evaluation of the comparative safety and tolerability of the 4 investigational MCMs, relative changes in viral load over time, comparisons of treatment efficacy according to baseline risk categories, 58-day mortality, RNA clearance from semen, and an assessment of the validity of drug-class comparisons, including efficacy. The study is monitored by an independent data and safety monitoring committee (DSMB).

Results. Enrollment commenced in the Ebola Treatment Unit in Beni in November, 2018, with sites in Butembo and Katwa added in early 2019. Time from study concept initiation to study start was only 3.5 months. Ongoing hurdles encountered to date include maintenance of cold chain requirements for the MCMs and marked volatility in the security situation surrounding sites affecting staff and patient safety. Despite these challenges, data quality and completed follow-up have been remarkably high and by mid-April, 2019, accrual to date (see table) had already surpassed the predefined threshold triggering an interim DSMB review.

Conclusion. Scientifically rigorous and ethically sound clinical research can take place during disease outbreaks even within a conflict zone. Results about the relative efficacy of the evaluated investigational MCMs are pending the completion of the trial.

Disclosures. All Authors: No reported Disclosures.