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Session: 68. Novel Antimicrobials and Approaches Against Resistant Bugs
Thursday, October 3, 2019: 12:15 PM

Background. Respiratory syncytial virus (RSV) infection presents a significant health challenge in young children, elderly and immunocompromised patients. To date, there are no effective treatments available. EDP-938 was designed to prevent RSV infection. In preclinical studies, EDP-938 demonstrated potent antiviral efficacy in all species assessed.

Methods. A novel, narrow-spectrum antibiotic with targeted activity against a range of RSV strains, EDP-938 is well-absorbed in all species assessed. In vivo pharmacodynamic (PD) modeling suggested that plasma trough concentrations ≥ 10⁻⁷ EC₅₀ led to > 4-log viral load reduction in EDP-938 treated monkeys.

Conclusion. The favorable preclinical PD profile of EDP-938 in monkeys supports its further clinical development to prevent RSV infection.

Disclosures. All authors: No reported disclosures.

669. Twelve-Month Durability of Microbiota-Based Therapy RBX2660 for Prevention of Recurrent Clostridium difficile Infection

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Session: 68. Novel Antimicrobials and Approaches Against Resistant Bugs
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Background. Recurrent Clostridium difficile infections (rCDI) are a public health threat with insufficient treatment options at present. Two Phase 2 clinical studies have reported the efficacy of RBX2660, a standardized, stabilized microbiota-based drug, in preventing rCDI. For one of these trials, we report herein the durability of clinical response (lack of CDI recurrence) and microbiome restoration to 12 months after RBX2660 treatment.

Methods. Data were drawn from an interim analysis of a multicenter, open-label Phase 2 study in which participants with multi-recurrent rCDI received up to 2 doses of RBX2660 delivered via enema every 7 days apart; this analysis includes data to 12 months after treatment, with follow-up ongoing. Efficacy was defined as the absence of CDI recurrence to 56 days after the last dose; and durability is defined as a continued lack of recurrence. Participant stool samples collected prior to and at 1, 7, 30, 60 days and 6 and 12 months after treatment were sequenced using a shallow shotgun method, with only treatment responders reported herein. Operational taxonomic unit (OTU) data were used to calculate relative abundance at the class level and Microbiome Health Indices.

Results. This study included 149 RBX2660-treated participants and 110 historical control patients, in the United States and Canada. As previously reported, the efficacy of RBX2660 in preventing rCDI (79.9%; 119/149) was higher than CDI-free rates in the historical control group (51.8%, 57/110; P < 0.001). Of 109 participants who had a 6-month follow-up, 97.2% (106/109) remained CDI-free, and no new CDI recurrences were reported at 12 months. Among treatment responders, the microbiome composition was restored after treatment to predominance by Bacteroidia- and Clostridia-class bacteria, and these compositions remained stable to 12 months after treatment. Participants who provided samples.

Conclusion. RBX2660, a microbiota-based drug, was efficacious for preventing rCDI, with clinical and microbiome restoration durability to at least 12 months after treatment. The follow-up of efficacy, safety, and microbiome restoration are ongoing.

Disclosures. All authors: No reported disclosures.

670. VRE Clearance in Patients with Recurrent Clostridium difficile Infection Following Treatment with Microbiota-Based Drug RBX2660

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Session: 68. Novel Antimicrobials and Approaches Against Resistant Bugs
Thursday, October 3, 2019: 12:15 PM

Background. Clostridium difficile infection (CDI) is the most frequent hospital-acquired bacteria in the United States. CDI is associated with significant morbidity and mortality, and a 40% lower mean EQ-5D-3L index score in patients with CDI recurrence to 56 days after the last dose; and durability is defined as a continued lack of recurrence. Participant stool samples collected prior to and at 1, 7, 30, 60 days and 6 and 12 months after treatment were sequenced using a shallow shotgun method, with only treatment responders reported herein. Operational taxonomic unit (OTU) data were used to calculate relative abundance at the class level and Microbiome Health Indices.

Results. This study included 149 RBX2660-treated participants and 110 historical control patients, in the United States and Canada. As previously reported, the efficacy of RBX2660 in preventing rCDI (79.9%; 119/149) was higher than CDI-free rates in the historical control group (51.8%, 57/110; P < 0.001). Of 109 participants who had a 6-month follow-up, 97.2% (106/109) remained CDI-free, and no new CDI recurrences were reported at 12 months. Among treatment responders, the microbiome composition was restored after treatment to predominance by Bacteroidia- and Clostridia-class bacteria, and these compositions remained stable to 12 months after treatment.

Conclusion. RBX2660, a microbiota-based drug, was efficacious for preventing rCDI, with clinical and microbiome restoration durability to at least 12 months after treatment. The follow-up of efficacy, safety, and microbiome restoration are ongoing.

Disclosures. All authors: No reported disclosures.

Figure 1. Relative taxonomic abundance at the class level among treatment responders (± Dirichlet multinomial with confidence limits)

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