INTRODUCTION

- Recurrent Clostridioides difficile infections (CDI) are an urgent public health threat associated with disruption of the microbiome.
- RBX2660 is a microbiota-based investigational live biotherapeutic that has been evaluated in >600 clinical trial participants for reducing recurrence of CDI.
- Here we report the combined microbiome and metabolomic analysis of participants in three trials of RBX2660.
- This analysis determined the correlations of clinical response with microbiome composition and diversity.

STUDY DESIGN

- This analysis included samples from RBX2660 - or placebo-treated participants in the randomized, double-blind, placebo-controlled trials PUNCH CD2 (NCT02589847; n=153), PUNCH CD3 (NCT03244644; n=887), and from RBX2660-treated participants in the PUNCH OLS (NCT03069194; n=653).
- Clinical response was defined as the absence of CDI recurrence at eight weeks after treatment.
- Participants who opted in submitted stool samples prior to blinded study treatment (BL), 1, 4 and 8 weeks and up to 24 months after the study treatment (BL), 1, 4 and 8 weeks and up to 24 months after the study treatment.

RESULTS

- There is a totality of evidence that clinical response to microbiota-based investigational live biotherapeutic RBX2660 in rCDI patients is associated with restoration of microbiome and bile acid compositions.
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- RBX2660-associated restorative changes are characteristic of shifts from an antibiotic-induced dysbiosis to a healthier state.

CONCLUSIONS

- There is a totality of evidence that clinical response to microbiota-based investigational live biotherapeutic RBX2660 in rCDI patients is associated with restoration of microbiome and bile acid compositions.
- Clinical response to RBX2660 was associated with restoration of secondary bile acids.
- RBX2660-associated restorative changes are characteristic of shifts from an antibiotic-induced dysbiosis to a healthier state.

REFERENCES

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MICROBIOME AND BILE ACID RESTORATION WAS CONSISTENT ACROSS THREE CLINICAL TRIALS OF RBX2660 FOR RECURRENT CLOSTRIDIODES DIFFICILE INFECTION: A COMBINED ANALYSIS

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Figure 1

CLINICAL RESPONSE TO RBX2660 WAS ASSOCIATED WITH A SHIFT IN MICROBIOME COMPOSITION

Figure 2

CLINICAL RESPONSE TO RBX2660 WAS ASSOCIATED WITH RESTORATION OF MHI-A

Figure 3

CLINICAL RESPONSE TO RBX2660 WAS ASSOCIATED WITH RESTORATION OF SECONDARY BILE ACIDS

Figure 4

GREATER RESTORATIVE SHIFTS IN RESPONDERS ARE ASSOCIATED WITH RBX2660 TREATMENT

Microbiome Health Index (MHI-A), a unidimensional algorithm which captures changes in the relative abundance of taxonomic classes known to have relevance to microbiome health and colonization resistance.

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