Analysis of Baseline Pathogens and Clinical Efficacy in IGNITE1, a Phase 3 Study to Evaluate the Efficacy and Safety of Eravacycline (ERV) versus Ertapenem (ETP) in Complicated Intra-Abdominal (cIAI) Infections

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Abstract

Background: Eravacycline (ERV) is a novel, fully-synthetic fluorocyclin antibiotic that has a unique mechanism of action that may provide enhanced activity against multidrug-resistant Gram-negative bacteria. IGNITE1 is a Phase 3, double-blind, randomized, multinational trial comparing ERV versus ETP in the treatment of complicated intra-abdominal infections (cIAI). The study endpoints are defined by the proportion of patients achieving clinical cure.

Methods: Baseline and culture specimens were obtained from all randomized patients. Susceptibility to study antibiotics and relevant comparator was determined by CLSI broth microdilution methods. Isolates of the same bacterial species from a single patient were evaluated by pulsed-field gel electrophoresis (PFGE) to assess genetic relatedness. Genotypic resistance was determined by whole-genome sequencing (WGS) of representative isolates. The minimum inhibitory concentration (MIC) was determined using CLSI criteria.

Results: 1,051 patients were enrolled. Of the isolates, 86% were susceptible to the investigational agents. Rates of surgical intervention by 30 days were similar between patient groups. The incidence of complications was lower in the ERV group. Efficacy was similar between the treatment groups.

Discussion: ERV was efficacious in patients with cIAI caused by different Gram-negative pathogens.

Introduction

ERV is a novel, fully-synthetic fluorocyclin antibiotic that has a unique mechanism of action that may provide enhanced activity against multidrug-resistant Gram-negative bacteria. The primary objective of the IGNITE1 trial was to determine the clinical efficacy and safety of ERV compared with ETP in patients with cIAI.

Materials and Methods

Isolates were collected from time zero (day 0) until treatment initiation. Isolates were collected from all randomized patients and were screened for ESBL-encoding genes and the transcription level of chromosomally-encoded ampC.

Results

Results: 1,051 patients were enrolled. Of the isolates, 86% were susceptible to the investigational agents. Rates of surgical intervention by 30 days were similar between patient groups. The incidence of complications was lower in the ERV group. Efficacy was similar between the treatment groups.

Discussion: ERV was efficacious in patients with cIAI caused by different Gram-negative pathogens.

Summary

ERV is a novel, fully-synthetic fluorocyclin antibiotic that has a unique mechanism of action that may provide enhanced activity against multidrug-resistant Gram-negative bacteria. The primary objective of the IGNITE1 trial was to determine the clinical efficacy and safety of ERV compared with ETP in patients with cIAI.

References


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