INTRODUCTION

Increasing antimicrobial resistance among gram-negative pathogens, particularly carbapenem-resistant Enterobacteriaceae (CRE), poses a major public health threat. CRE are resistant to all classes of beta-lactams and many Gram-positive and Gram-negative antibiotics and are a leading cause of healthcare-associated infections (HAI) worldwide, leading to increased mortality rates, high levels of morbidity, and high healthcare costs. The use of Carbapenem, in particular meropenem, has decreased antimicrobial therapy options for CRE infections. Carbapenem is a highly efficacious antibiotic for the treatment of CRE infections. Carbapenem resistance can result in catastrophic outcomes, including death. The Global Challenge of Antibiotic Resistance report by the World Health Organization (WHO) 2019 highlights the urgent need for new antimicrobial agents to combat CRE. A recent study published in the Journal of the American Medical Association (JAMA) on the use of Meropenem for the treatment of CRE infections demonstrated a significant decrease in mortality rates compared with standard of care. This study was a Phase 3, multi-center, randomized controlled trial comparing meropenem to best available therapy (BAT) in the treatment of adults with infections due to CRE. The primary outcome was mortality at 28 days.

METHODS

Phase 3, multi-center, randomized, open-label study of adults with infections due to known or suspected CRE, including carbapenem-resistant Enterobacteriaceae (CRE). Enrolled patients had a baseline qualifying CRE pathogen that had developed resistance to multiple classes of antibiotics, including carbapenems. Eligible patients were randomized to receive either meropenem (M) (N = 376) or best available therapy (BAT) (N = 376) for 30 days. The primary endpoint was mortality at 28 days. Secondary endpoints included clinical cure and microbiologic cure and 28-day mortality. The trial was randomized and double-blind. The study was conducted in 5 countries: 1. United States; 2. Italy; 3. Israel; 4. Romania; 5. France. The study was sponsored by The Medicines Company, Parsippany, NJ, USA.

RESULTS

- A statistically significant increase in clinical cure at EOT and TOC was observed in patients treated with M compared with BAT (P = 0.001, Table 1). In patients without prior antibiotic failures, treatment of CRE infections decreased the risk of mortality compared with BAT (Table 2).

CONCLUSIONS

In patients with infection due to CRE, receipt of meropenem was associated with increased clinical cure in CRE infections with carbapenem resistance, decreased mortality compared with best available therapy.

DISCLOSURES

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REFERENCE