Introduction

- Non-fermentative Gram-negative bacilli (NF-GNB) are opportunistic organisms that have emerged as important healthcare-associated pathogens, mainly in intensive care units.
- These organisms are increasingly less susceptible to many antimicrobial classes due to the presence of a diverse range of resistance genes (ESBLs and aminoglycosides).
- SPR206 is a novel agent with promising in vitro activity against these difficult-to-treat organisms.
- Moreover, SPR206 is active against non-fermentative Gram-negative bacilli (NF-GNB) with distinct and novel mechanisms of resistance.
- This study reports the activity of SPR206 against Acinetobacter spp., Pseudomonas aeruginosa, and other agents recovered from patients hospitalized in Europe and the USA.

Materials and Methods

Bacterial organisms

- This study included 437 Acinetobacter spp. (see Table 1 for a list of species) and 448 P. aeruginosa recovered from patients hospitalized in 38 medical centers in Eastern Europe, plus Israel and Turkey.
- Only consecutive isolates (1 per patient infection episode) were selected for analysis.

Susceptibility testing

- Isolates were tested for susceptibility to a broad range of agents, including clinically available in-class and other comparator agents.
- MICs for comparison purposes only.

Resistant subset definitions

- MDR was defined as any isolate resistant to ≥3 classes of antibiotics.
- E-MDR was defined as any isolate resistant to ≥3 classes of antibiotics, plus oxacillin (MIC >0.5 mg/L).

Results

Acinetobacter spp.

- A total of 61.6% of all Acinetobacter spp. exhibited an MDR phenotype.
- Clinical isolates originating from hospitals located in Eastern Europe and the USA had an MDR phenotype prevalence (77.6%) higher than those isolates from Western European hospitals (50.0%) (data not shown).

P. aeruginosa

- Overall, 15.6% of all P. aeruginosa isolates were MDR, showing an MDR phenotype prevalence (24.8%) higher than those isolates from Western European hospitals (11.7%) (data not shown).

Antimicrobial activity of SPR206

- SPR206 (MIC50/90, 0.25/0.5 mg/L) and colistin (MIC50/90, 1/1 mg/L) were among the agents active against non-MDR Acinetobacter spp. Causing Infections in Europe and Adjacent Regions.
- This study included 437 Acinetobacter spp. and Pseudomonas aeruginosa recovered from patients hospitalized in European countries and adjacent regions.

Conclusions

- SPR206 showed potent in vitro activity against these recent collections of Acinetobacter and Pseudomonas aeruginosa from Europe and (92.2% and 99.6% of all isolates, respectively), in addition, the potency of SPR206 was consistently greater than clinically available in-class and other comparator agents.
- These SPR206 results, plus favorable safety and tolerability profiles obtained during Phase 1 studies, support the clinical development of SPR206 for difficult-to-treat infections caused by these agents and their resistant subsets.

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References