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POSITIONING CEFEPIME–ENMETAZOBACTAM AGAINST THE LAST RESTORE ANTIBIOTIC

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ABSTRACT

Objective:
To assess the antimicrobial potential of cefepime–enmetazobactam, an emerging β-lactam/β-lactamase inhibitor (BL/BLI) combination, against multidrug-resistant Gram-negative pathogens, particularly *carbapenem-resistant Enterobacterales* (CRE) and *Pseudomonas aeruginosa*.

Methods:
Cefepime–enmetazobactam efficacy, resistance mechanisms, pharmacokinetic/pharmacodynamic (PK/PD) concerns, and safety results were assessed by reviewing recent in vitro investigations, clinical assessments, and comparative registry analyses.

Results:

Cefepime–enmetazobactam showed promising but selective action against subsets of CRE, especially class A β-lactamases like *klebsiella pneumoniae carbapenemase* (*KPC)*. The activity was restricted against class B metallo-β-lactamases, such as *New Delhi metallo-β-lactamase* (NDM) and *Verona Integron-encoded Metallo-β-lactamase* (VIM). Clinical studies showed it works well in treating complicated urinary tract infections (cUTI), bloodstream infections, and hospital-acquired pneumonia, with outcomes better or comparable to standard therapies. Importantly, its safety profile was similar to other β-lactam antibiotics, with no new major side effects reported.

Conclusion:

Cefepime–enmetazobactam represents a promising addition to the antimicrobial armamentarium, particularly effective against **ESBL- and KPC-producing Enterobacterales**, making it a strong **carbapenem-sparing alternative** in cUTI, bacteremia, and HAP/VAP.

KEYWORDS*: Cefepime–enmetazobactam, multidrug-resistant Gram-negative pathogens, klebsiella pneumoniae carbapenemase, Enterobacterale*