

Combination therapy for carbapenem-resistant gram-negative infections in Ukraine

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ABSTRACT. Antimicrobial resistance represents a serious global public health problem and poses a major challenge in the management of combat-related injuries during armed conflicts, such as the war of Russia against Ukraine. This paper describes a clinical case of a 32-year-old military patient who sustained combat-related injuries complicated by extensive wound infections caused by multidrug-resistant and pandrug-resistant bacteria and was successfully treated with combination antibacterial therapy including azithromycin and meropenem. The isolation of a pandrug-resistant *Pseudomonas aeruginosa* strain highlighted the severity of the clinical condition and the limited availability of effective therapeutic options. In addition, the high cost of reserve antibiotics and the unavailability of novel antimicrobial agents further complicated the treatment of these infections. This clinical case demonstrates the effectiveness of combination therapy with azithromycin (500 mg three times daily) and meropenem (2 g three times daily). Treatment administered over 37 days (27 days of azithromycin and 20 days of meropenem) resulted in clinical improvement and eradication of resistant pathogens. The findings underscore the importance of effective antimicrobial stewardship, strengthened infection prevention and control measures, and the implementation of alternative therapeutic strategies to overcome antimicrobial resistance in the context of combat-related trauma.

KEY WORDS: MDR, PDR, XDR, gram-negative infections, low-cost therapy, pandrug resistance, hospital infection, war wounds, Russia-Ukraine war.
