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Antibacterial activity of ozenoxacin on MRSA isolates recovered from skin and soft tissue infections

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Background: Rising rates of methicillin-resistant *Staphylococcus aureus* (MRSA) isolates in skin and soft tissue infections have led to the need for the development of new antibiotics. Ozenoxacin is a novel non-fluorinated quinolone antibiotic that has been developed for the topical treatment of impetigo.

Type of study: The antibacterial activity of ozenoxacin (OZN) in comparison with mupirocin (MUP) and fusidic acid (FUS) on skin and soft tissue MRSA was evaluated in three in vitro surveillance studies.

Methods: In Study 1, 1,057 MRSA isolates were collected from 128 worldwide centers, including 28 in USA. In study 2, 239 MRSA isolates were collected from 49 centers in Europe (EU) and 30 in USA. In Study 3, 225 MRSA isolates were collected in 10 centers in EU. All studies classified isolates according to levofloxacin susceptibility.

Results: In study 1, the MIC₉₀ for OZN was 0.008 mg/L for levofloxacin-susceptible MRSA, a concentration 31 times lower than MUP (0.25 mg/L) and 1000 times lower than FUS (8 mg/L). In study 2, the MIC₉₀ for OZN was also 0.008 mg/L for levofloxacin-susceptible MRSA, a concentration 31 times lower than MUP (0.25 mg/L) and 15 times lower than FUS (0.12 mg/L). In study 3, the MIC₉₀ for OZN was 0.002 mg/L was 125 times lower than MUP and FUS (0.025 mg/L for both). Overall, the MIC ranges for ozenoxacin, including the levofloxacin non-sensitive isolates, were the lowest (<0.002-4 mg/L) versus MUP (0.015–1,024 mg/L) and FUS (0.06–128 mg/L), demonstrating greater effectiveness of OZN compared to other antibiotics.

Conclusion: Ozenoxacin was substantially more active against MRSA isolates than either mupirocin or fusidic acid regardless of levofloxacin susceptibility, supporting its potential use as an empirical therapy for the treatment of impetigo.

Biography

Ilonka Zsolt is from Ferrer Internacional S A, Barcelona, Spain. Her type of study is the antibacterial activity of ozenoxacin (OZN) in comparison with mupirocin (MUP) and fusidic acid (FUS) on skin and soft tissue MRSA was evaluated in three in vitro surveillance studies.

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