FOREWORD

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Ozenoxacin: a review of absorption, dermal exposure and toxicity, tolerability and safety studies

“Preclinical tests have shown that ozenoxacin possesses potent bacteriostatic and bactericidal activity against Gram-positive pathogens...”

Savion Gropper*

Topical antibacterials are useful agents for the management of soft-tissue infections such as impetigo, particularly when compared with systemic therapy, as they avoid unnecessary exposure to the gut flora, which may exert selection for resistance. Topical antibacterials are also easy to use and, as shown in a recent Cochrane systematic review, are at least as effective as systemic agents [1–3]. Furthermore, it is expected that the high dermal drug concentrations associated with local application and the negligible systemic absorption observed in most cases should overwhelm many mutational resistances and therefore be less likely than systemic therapy to cause adverse effects [4]. However, escalating numbers of Gram-positive pathogens, especially *Staphylococcus aureus*, are becoming increasingly resistant to the leading topical antimicrobials used in clinical practice. For instance, resistance rates to mupirocin (a topical antimicrobial agent) have been reported for *S. aureus*, ranging from 1.3% in Latin America to 8.7% in Europe. Mupirocin resistance increases in coagulase-negative staphylococci, with reported rates ranging from 12.7% in Europe to 38.8% in the USA [5]. Moreover, several strains of *S. aureus* are also resistant to methicillin, and methicillin-resistant *S. aureus* infections are becoming a major concern worldwide. The increasing incidence of community-acquired methicillin-resistant *S. aureus* infections and resistance to other topical antibacterials justifies the need for alternative therapies for the treatment of skin and soft-tissue infections.

Ozenoxacin is a novel, nonfluorinated quinolone formulated for topical use. Preclinical tests have shown that ozenoxacin possesses potent bacteriostatic and bactericidal activity against Gram-positive pathogens such as *S. aureus* and *Streptococcus pyogenes*, organisms that are frequently associated with skin and soft-tissue infections [6–8]. These studies indicated that a simplified once- or twice-daily treatment schedule was feasible and should be advantageous in terms of improving compliance and minimizing the risk of treatment failure and the development of resistant strains.

In the studies presented in this supplement, the aim has been to address a number of important questions regarding the pharmacokinetic profile (absorption and dermal exposure), dermal tolerability and safety (irritation, sensitization, phototoxicity and photoallergy) and overall tolerability and safety (adverse events) of ozenoxacin, which is currently in development for the topical treatment of various uncomplicated skin and skin structure infections.

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