Foreword

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A review of the antibacterial activity of ozenoxacin

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Impetigo is a highly contagious common bacterial skin infection, which is particularly prevalent in children aged 2–5 years. It is classified clinically based on the type of skin lesion, as nonbullous and bullous. Nonbullous impetigo (impetigo contagiosa), which occurs in around 70% of cases, is caused by *Staphylococcus aureus* or *Streptococcus pyogenes* infection. Bullous impetigo is caused by toxin-producing *S. aureus*. Impetigo can occur either as a primary infection or secondary to another condition, such as scabies or atopic dermatitis (atopic eczema) following disruption of the skin barrier [1,2].

A recent systematic review of the global epidemiology of impetigo reported a median prevalence of 11.2% (interquartile range [IQR]: 4.2–19.4%; 89 studies) in the general population, with the prevalence in children (12.3%; IQR: 4.2–19.4%; 82 studies) being around 2.5-fold higher than that in adults (4.9%; IQR: 3.1–9.6%; 11 studies) [3]. In some remote isolated communities, the prevalence of impetigo approaches 50% [3,4].

Systematic reviews and meta-analyses of interventions for impetigo showed that two topically administered antibacterial agents, mupirocin and fusidic acid, are as effective or more effective than oral antibacterial agents [5,6]. However, fusidic acid-resistant *S. aureus* strains in nonbullous impetigo and secondarily infected atopic dermatitis [7], and mupirocin-resistant *S. aureus* strains in pediatric recurrent skin and soft tissue infections [8,9] have been described, which limit the efficacy of these topical antibacterials. Alternative topical antibiotics for impetigo are retapamulin [2,6] and ozenoxacin, a nonfluorinated quinolone [10]. A recent Phase III clinical trial showed that topical ozenoxacin was effective and safe in the treatment of impetigo [11].

This supplement provides *in vitro* and *in vivo* data for the antibacterial activity of ozenoxacin against Gram-positive isolates, which illustrate several features of the compound. A comparative *in vitro* study of ozenoxacin with a panel of antibacterial agents shows that ozenoxacin has high antibacterial activity at low concentrations against Gram-positive isolates obtained from skin and soft tissue infections [12]. The therapeutic efficacy of ozenoxacin is examined in rodent models of *S. aureus* dermal infection [13], and the potential chondrotoxicity of ozenoxacin, which is a known adverse effect in fluorinated quinolone antibacterials, is evaluated in juvenile rats and dogs [14].

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