**ABSTRACT**

Background: WCK 771 is an anti-MRSA (Staphylococcus aureus) fluoroquinolone approved in India for the treatment of skin and skin structure infections. Analysis of fluoroquinolone resistance determinants in clinical isolates of S. aureus revealed that WCK 771 is a novel drug in terms of resistance to qnrS and qnrB. In this study, we investigated the mechanism of fluoroquinolone resistance in S. aureus isolates.

Methods: 56 clinical isolates of quinolone-resistant staphylococci from the Indian strain repository were studied. The study was based on phenotypic and genotypic analysis of resistance profiles and the determination of fluoroquinolone resistance determinants in S. aureus. The study followed the guidelines of the Indian Council of Medical Research (ICMR).

Results: The study showed that WCK 771 is highly active against all S. aureus isolates, with MICs ranging from 0.06 to 2.0 µg/mL. Mutations in the QRDR were not detected in any of the isolates, indicating that WCK 771 does not confer resistance to fluoroquinolones. The study also revealed that WCK 771 has a broad spectrum of activity against a wide range of S. aureus strains, including those with extended-spectrum beta-lactamases (ESBLs) and carbapenemases.

Conclusions: WCK 771 is a highly active antibiotic against S. aureus isolates, with a broad spectrum of activity and a low risk of resistance development. It is a potential candidate for the treatment of MRSA infections in India and other countries where fluoroquinolone resistance is prevalent. Further studies are needed to evaluate its clinical efficacy and safety profile in the treatment of MRSA infections.

**RESULTS**

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**CONCLUSIONS**

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