

Abstract

INTRODUCTION:

Enteric fever is caused by *Salmonella enterica* serovars Typhi and Paratyphi A, B and C. It is a significant public health issue in Pakistan, which is exacerbated by a high level of resistance some isolates display to drugs routinely used in treatment. Azithromycin may be a treatment option for such isolates.

METHODOLOGY:

We determined the minimum inhibitory concentrations (MICs) of *Salmonella* Typhi and Paratyphi isolates against azithromycin in an attempt to gauge its feasibility as a therapeutic option. The MICs were also compared with corresponding disc diffusion zone sizes to see if there was consistency between the two tests. We tested 45 *Salmonella enterica* isolates using E-tests for MIC detection and azithromycin discs with a concentration of 15µg/ml for disc diffusion testing.

RESULTS:

Salmonella Typhi, *Salmonella* Paratyphi A, and *Salmonella* Paratyphi C isolates demonstrated MICs of 2-12mg/L against azithromycin, suggesting that the antibiotic could be used for therapeutic purposes. For *Salmonella* Paratyphi B, the MICs were 2-48 mg/L. The higher MIC indicates a need for caution when considering use of azithromycin for *Salmonella* Paratyphi B infections without first testing for the MIC. There was a close correlation between MICs and zone sizes which was statistically significant.

CONCLUSIONS:

Our results indicate azithromycin is a potential therapeutic option for enteric fever. Standardized laboratory testing methods and interpretation for azithromycin against *Salmonella enterica* would allow laboratories to report upon this antibiotic with confidence.