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LETTER-TO-THE-EDITOR

An Outbreak of Bacillary Dysentery Caused by Quinolone-resistant *Shigella dysenteriae* Type 1 in a Northeastern State of India

Sir,

Outbreak of dysentery caused by multidrug-resistant *Shigella dysenteriae* type 1 has been a recurrent challenge in many parts of the developing world. Since 1984, outbreaks of dysentery caused by multidrug-resistant *S. dysenteriae* type 1 have been reported from India (1-3). Recently, an outbreak of dysentery occurred in the northeastern region of India. The outbreak began during the first week of April 2003 and continued until the first week of June 2003. The affected village was situated in a very remote and inaccessible place on the top of a hill; the hill is located about 210 km away from Aizwal, the capital city of Mizoram, an eastern hill state of India. The first case was reported to have occurred in a refugee family who had migrated from a neighbouring state, from where it further spread among the local population. In total, 169 cases suffered from bloody diarrhoea since 1 April 2003 as per case definition. Seventeen percent (169/995) of the people were attacked but nobody died.

Local physicians treated all dysentery cases with various antibiotics, such as co-trimoxazole, nalidixic acid, tetracycline, norfloxacin, and ciprofloxacin, which were given from time to time in an incomplete dosage and for short durations. Most (90%) patients did not respond to the treatment.

We examined faecal samples from 12 dysentery cases, of which 3 (25%) yielded *S. dysenteriae* type 1 on culture. Antimicrobial susceptibility testing revealed that all the strains were resistant to ampicillin, co-trimoxazole, nalidixic acid, norfloxacin, ciprofloxacin, and ofloxacin, and were sensitive to azithromycin and ceftriaxone. Minimum inhibitory concentrations (MICs) of the strains against the fluoroquinolone group of antibiotics were determined using E-test (AB BIODISK, Solna, Sweden) following the manufacturer's instructions. The strains had an MIC of 3 mcg/mL, 6 mcg/mL, and 8 mcg/mL against ciprofloxacin, norfloxacin, and ofloxacin respectively. Based on the drug-resistance patterns, we recommended azithromycin or ceftriaxone for case management. Earlier, we reported reduced susceptibility of ciprofloxacin against *S. dysenteriae* type 1 (2,3). In our present study, we observed that *S. dysenteriae* type 1 strains developed resistance to both ciprofloxacin and ofloxacin, which is of great concern. This indicates that multidrug-resistant *S. dysenteriae* type 1 is spreading in a wider geographic area in eastern India, and in future, it may spread further. Therefore, there is an urgent need to search for other effective antimicrobial agents for treating shigellosis. Also, efforts should be made to prevent indiscriminate use of antimicrobial agents because this is an important cause of emergence and dissemination of drug-resistant strains.

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