

Is fosfomycin as effective as claimed on MDR Gram-negative bacteria causing UTI? [Letter]

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Dear editor

In a recently published paper¹ fosfomycin is claimed to be an effective antibiotic on Gram-negative bacteria (GNBs) causing urinary tract infections (UTIs) in Pondicherry in Southern India. Monotherapy of fosfomycin is not recommended due to chances for development of resistance during therapy is a serious concern² therefore the authors suggested using fosfomycin with amoxycylav and nitrofurantoin.¹ Researchers reported fosfomycin as the most effective antibiotic inhibiting 100% *E. coli*, 70% *Klebsiella* sp., and 50% *Pseudomonas* sp. and 40% *Enterobacter* sp. isolates from UTIs. Fosfomycin was also effective against extended-spectrum β -lactamases (ESBL), carbapenemase and AmpC¹ producers. A recent report from Bareilly³, Northern India indicated *E. coli* as the most common bacteria associated with UTI infections both in humans and animals similar to the report from Pondicherry.¹ However, the report from Northern India reported only that only 12.9% and 33.3% isolates of GNBs associated with UTIs in humans and animals were susceptible to fosfomycin. The study³ reported that only 8.3% and 25% of *E. coli* isolates from UTI cases were susceptible to fosfomycin. The two studies^{1,3} concurred (Table 1) each other concerning the efficacy of meropenem and nitrofurantoin but contradicted each other for the susceptibility of *E. coli* isolates (Table 1) and other GNBs from UTIs to other antibiotics.

Table 1 Susceptibility patterns of *Escherichia coli* associated with urinary tract infections

Antimicrobials tested	Percent sensitive isolates under study in Pondicherry ¹	Percent sensitive isolates under study in Bareilly ³	
	<i>E. coli</i> , human cases (n=217)	<i>E. coli</i> , human cases (n=50)	<i>E. coli</i> , animal cases (n=37)
Fosfomycin	100	8.3	25.0
Nitrofurantoin	86.6	89.4	78.4
Ciprofloxacin	0.0	14.6	29.7
Gentamicin	4.6	60.0	45.9
Meropenem	84.3	80.6	87.1
Ceftriaxone	0.5	31.7	50.0
Ceftazidime	6.9	40.7	46.7

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Looking at both of the studies,^{1,3} we understand a wide variation in susceptibility (Table 1) of the bacteria from different regions and different patients causing similar infections. Thus, a generalization of observation should be avoided for suggesting or using antimicrobial chemotherapy, and more elaborate and continues surveys and monitoring the antimicrobial drug-resistance of important pathogens should be established and regularly published for proper guidance of the clinicians.

Disclosure

The authors report no conflicts of interest in this communication.

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