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P1633 ESBL- and carbapenemase-producing Enterobacteriaceae isolated from patients after treatment with intravenous fosfomycin, ceftriaxone and meropenem: interim data from the FOREST trial

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Background: Fosfomycin is active against most multidrug-resistant (MDR) *Escherichia coli* isolates and is being investigated in the treatment of complicated urinary tract infections (UTI). The objective of this interim analysis is to compare the ecologic impact of fosfomycin and comparators among patients included in the FOREST trial.

Materials/methods: The FOREST trial is a multicentre open-label randomized trial comparing fosfomycin with ceftriaxone or meropenem (if ceftriaxone-resistant) for the definitive treatment of patient with bacteraemic UTI due to MDR *E. coli*. An interim analysis of follow-up urine cultures and rectal swabs (in a subset of patients) during/after treatment was performed. ESBL and carbapenemase-producing Enterobacteriaceae (EPE, EPC) were identified using standard methods and selective media in rectal swabs.

Results: Overall, 84 recruited patients have been included in this interim analysis; 45 received fosfomycin and 39 comparators (24 meropenem, 15 ceftriaxone). EPE was isolated during/after treatment from urine in 6/45 (13.3%) treated with fosfomycin and in 8/39 (20.5%) treated with comparators (p=0.3). When only patients initially infected with non-ESBL-producers are considered, 0/23 treated with fosfomycin and 3/15 treated with ceftriaxone had an EPE clinical isolate during/after treatment (0 vs 20%, p=0.07). EPE were resistant to fosfomycin in 3/45 treated with fosfomycin and 1/39 (6.6% vs 2.5%, p=0.6). Forty-five recruited patients were included in the rectal colonisation substudy, 25 and 20 treated with fosfomycin and comparators, respectively (10 meropenem, 10 ceftriaxone). An ESBL-producer was isolated from 9 and 10 patients, respectively (36% vs 55%, p=0.2). When only patients initially infected with non-ESBL-producers are considered, 2/16 treated with fosfomycin and 3/10 treated with ceftriaxone had an EPE isolate in rectal samples (12.5% vs 30%, p=0.3). One patient treated with meropenem was colonised by an OXA-48 producer. EPE isolated from rectal swabs were resistant to fosfomycin in 4/25 patients treated with fosfomycin and 0 treated with comparators (16% vs 0, p=0.1).

Conclusions: These preliminary data suggest that fosfomycin might be associated with lower risk of detection of EPE after treatment than ceftriaxone; a carbapenemase-producer was detected in only one patient, treated with meropenem. Resistance to fosfomycin in EPE was more frequent among rectal colonisers than clinical isolates.