O243
Oral Session
New old antibiotics: safety and efficacy

THE POTENTIAL ROLE OF FOSFOMYCIN IN COMBATING ESBL PRODUCING ORGANISMS CAUSING URINARY TRACT INFECTIONS IN DISTRICT GENERAL HOSPITAL IN THE U.K.

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Objectives:
We are aiming to evaluate the use of fosfomycin in treating patients with UTIs caused by ESBL producing organisms in comparison with other oral antimicrobial agents such as cipro and nitrofurantoin.

Methods:
Retrospective cohort study in the period October 2009 to April 2013 at a district general hospital in the U.K. and comparing the clinical and microbiological clearance in both groups, also looking at the effect of using fosfomycin on the re-infection and/or relapse rate. Data was collected to describe the study group in the form of a number of variables include age, sex, ethnicity, underlying medical problems, any risk factor for developing ESBLs. These risk factors include: age above 60, previous exposure to antibiotics (during last 6 months), presence of urinary catheter, urinary tract abnormalities, hospitalisation in the past 6 months and presence of co-morbidities. Data on antimicrobial susceptibility, types of organisms isolated were also collected.

Results
A total of 236 cases were studied, of whom 121 cases were treated with fosfomycin and 115 cases were treated with other oral agents such as nitrofurantoin, ciprofloxacin and trimethoprim.The mean age for the fosfomycin group was 65.5; (range 1-94) while the mean age for control group was 67(range 1-92)(P= 0.7).46 cases were males and 75 cases were females in fosfomycin group while 44 cases were males and 71 cases were females in the non fosfomycin group. The number of isolates in fosfomycin group were as follows 2 *E. cloacae*, 98 *E.coli*, 18 K.pneumoniae and one of each (*M.morganaii*, *P. mirabilis* and *S.liquifaciens*). The control group had the following isolates 1 *E.aerogenes*, 100 isolates *E.coli* and the rest were *K. pneumoniae.* All patients were symptomatic with UTI, treated with either oral fosofmycin or other oral agents .The clinical cure rate was defined as resolution of symptoms and microbiological success was defined as a sterile urine culture taken 7-10 days post treatment. The clinical cure rate and microbiological clearance was 100% and 84.3% respectively in the fosfomycin group and 76.4% and 26.0% in the control group (P<0.001). The The use of fosfomycin was associated with less relapse and/or re-infection. The mean number of days between episodes of UTIs in the fosfomycin group was 143 days (range of 45-365 days) in comparison with control group with mean of 43 days (20-160 days) P<0.001.

Clinical Cure	Fosfomycin group	Non fosfomycin group	Total	P <0.05
Yes	121 (100.0%)	94 (81.74%)	215 (91.1%)	<0.001
No	0 (0.0%)	21 (18.26%)	21 (8.9%)	
Total	121 (100%)	115 (100.0%)	236 (100.0%)	

Conclusion: The use of fosfomycin in our patient cohort was associated with significantly better clinical cure and microbiological clearance than currently used oral agents. Also, it is associated with lower recurrence rate.
Further studies are needed in order to explore its potential role.