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Poster Session VI

Various clinical infections

RISK FACTORS FOR THE ACQUISITION OF ESBL PRODUCING ENTEROBACTERIACEAE AMONG PATIENTS WITH COMMUNITY-ACQUIRED URINARY TRACT INFECTIONS.

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Objective: The changed epidemiology of extended spectrum beta-lactamases, the spread to the community and the need for prudent use of carbapenems require updated knowledge of risk factors for infection with ESBL producing Enterobacteriaceae (ESBL-E).

The aim of this study was to describe the epidemiology, clinical and microbiological features of urinary tract infections and to determine risk factors of uropathogenic ESBL-E.

Methods: Retrospective study including patients admitted for community-acquired urinary tract infections at infectious diseases department in the university hospital of Monastir between 2009 and 2013. Antimicrobial susceptibility was performed by agar diffusion according to CA-SFM. A case control study was performed: cases were patients with ESBL-E (group A), control patients with susceptible strains (group B). Cases and controls were matched 1:2 based on age and gender. Covariates found to be associated with ESBL-E on univariate analysis at a level of significance $p < 0.1$ were eligible for inclusion in a multivariate logistic regression model.

Results: 108 patients were included, 72 (66.6%) in group B and 36 (33.4%) in group A. Gender and age distribution were uniform in the two groups ($p > 0.05$). Diabetes was noted in 37 cases (51.4%) in group B and in 18 cases (50%) in group A ($p=0.52$). Recurrent urinary tract infection was noted in 27 cases (37.5%) in group B and in 24 cases (66.6%) in group A ($p=0.004$) and urinary lithiasis in 14 (19.4%) in group B and in 10 (27.7%) in group A ($p=0.23$). Previous hospital admission and previous antibiotics use were significantly associated with ESBL-E: 26.3% (B) vs 47.2% (A) ($p=0.027$) and 29.1% (B) vs 75% (A) ($p < 0.001$) respectively. Pyelonephritis was diagnosed in 83 cases (76.8%), cystitis in 16 cases (14.8%) and prostatitis in 9 cases (8.3%). *K. pneumoniae* was predominant in group A (41.6%) and *E. coli* in group B (79.2%). The frequency of resistance to gentamicin, amikacin, fluoroquinolones and cotrimoxazol was significantly higher in group A: 61.1% vs 8.3% ($p < 0.0001$), 13.9 vs 2.7% ($p=0.04$), 88.9% vs 15.3% ($p < 0.0001$) and 83.3% vs 38.9% ($p < 0.0001$) respectively. No strains in the two groups were resistant to imipenem. A biantibiotherapy was prescribed in 12 cases (16.6%) in group A and in 7 cases (19.4%) in group B ($p=0.7$). Multivariate analysis identified recurrent urinary tract infection (OR 3.33, CI 1.43-7.73), previous hospital admission (OR 2.49, CI 1.07-5.77) and previous antibiotics use (OR 7.28, CI 2.93-18.1) as risk factors for ESBL-E infection.

Conclusion: Several risk factors were found to be related with increased incidence of ESBL-E. Identifying these risk factors may help identifying which patients may warrant empiric ESBL-targeted antimicrobial drug therapy as a means to limit carbapenem use.