

P2143 Acute pyelonephritis caused by extended-spectrum beta-lactamases-producing *E. coli* in a Tunisian hospital

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Background: *Escherichia coli* is the most common pathogen in community-acquired acute pyelonephritis (CA-AP). The emergence of extended-spectrum beta-lactamases (ESBL) and its spread to the community requires updated knowledge of risk factors for infection with ESBL-producing *E. coli* (ESBL-E). The aim of this study is to describe the epidemiology, clinical and microbiological features of CA-AP and to determine risk factors of uropathogenic ESBL-E and other associated resistance to antibiotics.

Materials/methods: The study included all patients admitted for CA-AP caused by *E. coli*, at Infectious Diseases department at the University Hospital of Monastir in Tunisia between 2006 and 2016. Patients aged > 14 years who had temperature $\geq 37,8^{\circ}\text{C}$, flank pain and/or costovertebral tenderness, urinary tract symptoms, leukocyte count $> 10^4/\text{ml}$ and bacteriuria $> 10^5/\text{ml}$ were enrolled. *E. coli* identification was performed by API20E. The study of antibiotic susceptibility was performed by agar diffusion according to CA-SFM/EUCAST. Univariate analyses were run to describe the distribution, central tendency and variability. Covariates found to be associated with ESBL-E, on univariate analysis ($p < 0.1$), were eligible for inclusion in a multivariate logistic regression model.

Results: A total of 526 cases of CA-AP were included. Mean age was 45 years (14–89). Sex ratio was 0.42. Dominant comorbidities were diabetes (25.9%) and urinary lithiasis (9.3%). History of urinary tract infection was noted in 163 cases (31%), of hospitalization in the last six months (9.3%) and of antibiotherapy in the last three months (18%). Sixty two strains (11.7%) were resistant to fluoroquinolones. Thirty six strains (6.8%) were ESBL-producing. In univariate analysis, ESBL-E was correlated to urinary catheterization ($p=0.01$), antibiotic use in the previous three months ($p=0.01$), urological abnormalities ($p=0.05$) and diabetes ($p=0.03$). After multivariate analysis, factors correlated to ESBL-E isolation were: diabetes (OR=2.78, 95%IC=1.4-5.54, $p=0.005$) and urological abnormalities (OR=2.6, 95%IC=1.014-6.66, $p=0.05$). Antibiotic use in the previous three months was not correlated to ESBL-E isolation (OR=1.56, 95%IC=0.7-3.4, $p=0.2$). Resistance to gentamicin, amikacin, fluoroquinolones, cotrimoxazole was significantly higher in ESBL-E group ($p < 0.001$).

Conclusions: The increase of CA-AP due to ESBL-E in Tunisia needs efforts to curtail it such as reevaluating empiric antibiotic regimens and implanting antimicrobial stewardship programs.