

1043. Fluoroquinolone Resistance in Community-acquired Acute Pyelonephritis: Clinical Characteristics, Risk Factors and Clinical Response according to Fluoroquinolone MIC of Uropathogens

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Session: 121. UTIs: Management and Issues in Drug-Resistance

Friday, October 10, 2014: 12:30 PM

Background. The objective of this study was to investigate clinical characteristics, risk factors of community-acquired acute pyelonephritis (CA-APN) caused by fluoroquinolone-resistant (FQ-R) uropathogen, and clinical response according to FQ MICs of uropathogen.

Methods. We performed prospective observational study, which collected clinical data of CA-APN women with identified urinary pathogen from urine or blood cultures visiting 11 university hospital from March 2010 to February 2012.

Results. Among 775 CA-APN patients, 587 with FQ susceptibility results were analyzed. Numbers of FQ-R and fluoroquinolone-susceptible (FQ-S) group were 127 (21.6%) and 460 (78.4%). In clinical characteristics, more patients in FQ-R group had an age >65 years (56.7% vs 44.6%, $p = 0.015$), history of antibiotics usage within 1 year (48.1% vs 24.3%, $p < 0.001$), history of admission within 1 year (43.7% vs 22.8%, $p < 0.001$), Charlson co-morbidity index >1 (26.8% vs 21.3%, $p = 0.191$), and extended-spectrum β -lactamase positivity (27.2% vs 4.2%, $p < 0.001$). Clinical response within 72 hours (early clinical response, ECR), final clinical response and mortality were not different between the two groups, although duration of hospitalization was longer in FQ-R group (median 9.0 vs 7.0 days, $p = >0.001$). In subgroup of 142 subjects using FQ during initial 72 hours, final clinical response or mortality was not different between the two groups. However, ECR was more frequent (50.0% vs 75.0%, $p = 0.012$) and duration of hospitalization was shorter (median 10.5 vs 7.0 days, $p < 0.001$) in FQ-S than FQ-R group. Multivariate logistic regression proved that age >65 years (OR 1.572, CI 1.004-2.460, $p = 0.048$) and history of antibiotics usage within 1 year (OR 2.902, CI 1.842-4.573, $p < 0.001$) were significant risk factors for FQ-R. Among the 142 subjects, FQ MICs of *Escherichia coli* from urine or blood were available in 64 patients, and ECR according to FQ MIC was analyzed: 72.5% (29/40) in patients with MIC <0.004 ~ 0.125 $\mu\text{g/ml}$, 76.9% (10/12) with 0.19 ~ 3 $\mu\text{g/ml}$, 80% (4/5) with 4 ~ 16 $\mu\text{g/ml}$ and 57.1% (4/7) with >32 $\mu\text{g/ml}$.

Conclusion. Risk factors of FQ-R were age >65 years and history of antibiotics usage within 1 year, and duration of hospitalization was longer in FQ-R than FQ-S group. Patients with FQ MIC $\leq 16 \mu\text{g/ml}$ showed a similar ECR to those with susceptible isolates.

Disclosures. All authors: No reported disclosures.