

EV0045

ePoster Viewing

Antimicrobials: antibiotic usage

Antibiotics for initial therapy in women with acute pyelonephritis: gentamicin, can it be an alternative?

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**Objective:** Acute pyelonephritis (APN) is one of the most common bacterial infections in adults. Fluoroquinolones and cephalosporins are recommended for empirical therapy. In the era of emergence of ESBL-*Enterobacteriaceae*, other therapeutic options should be considered. We report the experience of an Infectious Diseases Department in the treatment on APN.

**Methods:** Retrospective study of 265 women hospitalized for AP, in the Department of Infectious Diseases, University Hospital Monastir, Tunisia, during the period 2002-2012. Inclusion criteria were: fever, back pain and/or urinary symptoms, leukocyte count  $\geq 10^4$  WBCs/ml, bacteriuria  $\geq 10^5$  CFU/ml and no pregnant or lactating women. A case control study was performed. The patients were divided into 2 groups. Group A includes patients treated with gentamicin. Group B comprises patients treated with another antibiotic. The clinical efficacy was judged on the time required to obtain apyrexia and disappearance of back pain. The microbiological efficacy was judged on the negativity of the urinalysis control at 48-72 h after treatment initiation and 6 weeks after the end of antibiotic therapy.

**Results:** Among the 265 patients selected, 142 (53.6%) were treated with gentamicin (group A). The 123 (46.4%) other patients (group B) were treated as follow: beta-lactamins in 65 cases (52.8%), fluoroquinolones in 55 cases (44.7%) and glycopeptides in one case. Mean age was  $44 \pm 19.4$  years (14-89 years). Patients in group A were younger:  $35.6 \pm 15$  years versus  $53.7 \pm 19.6$  years ( $p < 0.001$ ). In group A there were less diabetics (13.4% vs. 43.1%,  $p < 0.001$ ), postmenopausal women (12% vs. 51.2%,  $p < 0.001$ ), and complicated AP (19% vs. 70%,  $p < 0.001$ ). The urinalysis isolated *E. coli* in 226 cases (85.3%). Sensitivity of *E. coli* to cefotaxim, fluoroquinolones and gentamicin was respectively 96.9%, 91.5% and 94.2%. Blood cultures were positive in 17 cases (6.4%) with no significant difference between the 2 groups ( $p = 0.3$ ). In group A, the average time for apyrexia was  $54.8 \pm 29.6$  hours versus  $62.44 \pm 48.7$  hours in group B ( $p = 0.13$ ). The average time of disappearance of back pain was comparable between the 2 groups:  $4.11 \pm 1.7$  days (A) versus  $4.72 \pm 3.6$  days (B) ( $p = 0.18$ ). The urinalysis control, achieved after 48-72 hours of treatment was positive in 4 patients in both groups ( $p = 0.8$ ). Six weeks after the end of treatment, urine cultures are witnessing a complete negativity in all cases ( $p = 0.5$ ). Mean duration of antibiotic therapy was less in group A ( $12.7 \pm 4.5$  days vs.  $14.2 \pm 3.7$ ,  $p = 0.006$ ). Side effects were noted in 10 cases (3.9%) including 8 related to gentamicin: allergy skin ( $n = 5$ ), reversible renal failure ( $n = 2$ ), reversible vertigo ( $n = 1$ ) ( $p = 0.051$ ).

**Conclusion:** Gentamicin for treatment of APN in women is efficacy and safe. It can be an effective initial antibiotic option for empirical therapy.