Current Management of Urinary Tract Infections - EAU Guidelines updated

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Urinary tract infections are classified: i) uncomplicated lower UTI (cystitis); ii) uncomplicated pyelonephritis; iii) complicated UTI with or without pyelonephritis; iv) urosepsis; and v) urethritis.

In a recent European study (ARESC) susceptibility (mean) of above 90% for E. coli was found for fosfomycin, mecillinam, nitrofurantoin, and fluoroquinolones (FQ), however, with rising resistance in some countries. Therefore, in Europe fosfomycin trometamol, pivmecillinam, nitrofurantoin, can be recommended as first choice, and FQ only with reservations depending on the local resistance pattern. In most countries the resistance of E. coli for cotrimoxazole (trimethoprim) was above 20%, which makes the drug(s) not suitable for empiric therapy.

Short-term therapy is considered treatment of choice in uncomplicated cystitis in premenopausal, non-pregnant women, but is not so well established in pregnancy and in postmenopausal women.

For prevention of recurrent UTI continuous administration of a reduced (about 1/4 of usual daily dose) dose of a suitable antimicrobial is recommended; alternatives are immunoprophylaxis and local estrogen substitution in postmenopausal women.

In acute pyelonephritis the bacterial spectrum is about the same as in uncomplicated cystitis with E. coli predominating. Immediate empiric therapy with antibiotics covering E. coli is important. The treatment duration is between 7-14 days depending on the clinical course. Complicating factors within the urinary tract have to be ruled out especially when treatment is not successful. In areas with low FQ resistance a FQ is preferable, otherwise 3rd generation cephalosporins, except in areas with high ESBL rate, or aminoglycosides for the first three days with switch to an oral drug.

In complicated/nosocomial UTI the bacterial spectrum is much broader and multiresistant uropathogens and biofilm infections, for which FQ are preferred, are common. However in areas with high rate of E. coli resistance to FQ and/or ESBL, a carbapenem is recommended for initial therapy until susceptibility testing is available. Therefore, a pre-treatment culture is necessary, that the antibiotic can be adjusted accordingly. Long term efficacy depends on whether the complicating factors within the urinary tract can be removed.