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Abstract (publication only)

Community-acquired urinary tract infection: prevalence and resistence – A one year experience

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Objectives: The aim of this study was to evaluate the prevalence of the community-acquired UTI and the antibiotic resistance of the bacteria involved. Methods: 8828 urine samples were analyzed from January 2010 until December 2010. Urine samples were cultured in CPS ID3 and incubated at 37ºC for 24h. Identification and antibiotic susceptibility tests were made by the automated system Vitek 2 Compact (Biomérieux). Susceptibility to 16 antibiotics commonly used in UTIs was evaluated: amoxicillin, amoxicillin/clavulanic acid, cephalothin, cefuroxime, ceftazidime, ceftriaxone, cefoxitin, cefepime, norfloxacin, ciprofloxacin, fosfomycin, gentamicin, tobramycin, amikacin, trimethoprim/sulfamethoxazole and nitrofurantoin. Results: According to guidelines 1594 urines (18,1%) were associated to UTI. Urinary isolates were collected from patients <= 50 years 37,8%, (602/1594), > 50 years 62,2%, (992/1594). The prevalence of Escherichia coli was 64,9% (1034/1594) and for other Gram negative bacteria 23,6% (376/1594). Klebsiella pneumoniae were identified from 168 urines (10,5%) while for Proteus mirabilis 145 urines (9,1%). Among the Gram positive bacteria 10,4% (166/1594), Enterococcus faecalis was the predominant species 6,3% (101/1594) followed by Streptococcus agalactiae 2% (32/1594) and Staphylococcus saprophyticus 1% (16/1594). For E. coli, K. pneumoniae, P. mirabilis the antibiotics with higher frequency of resistance were ciprofloxacin (10%, 11,3%, 10,3%) in association to trimethoprim/sulfamethoxazole (27,3%, 19,6%, 29,7%), respectively. Fosfomycin showed more efficacy than others antibiotics with frequency of 1,5% (E. coli), 2,4% (K. pneumoniae) and 2,8% (P. mirabilis). Among E. coli isolates the frequency of resistant strains were less than for K. pneumoniae and P. mirabilis isolates. Conclusion: This study shows that E.coli is involved in 64,9% of the community-acquired UTI, a number lower than expected, followed by other Gram negative bacteria like K.pneumoniae and P.mirabilis. S.saprophyticus represents only 1% of the UTI, much lower than the value described in literature where it is considered the second main agent of UTI. High resistance rates were obtained for amoxicillin, quinolones and trimethoprim-sulfamethoxazol. These antibiotics should not be used for the empiric treatment of community-acquired UTI. Low resistance rates are shown for fosfomycin and nitrofurantoin. These two antibiotics may be a good option for the empiric treatment of UTI.