SELECTION OF RESISTANT BACTERIAL STRAINS IN CHILDHOOD URINARY TRACT INFECTION

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Introduction: Urinary tract infections (UTI) are among the most common bacterial infections in children. Antibiotic therapy is mandatory but may lead to resistant bacteria.

Aim: To determine the bacterial specimens, resistance patterns and the risk of non E. coli (EC) or resistant EC UTI in children with and without urinary tract or kidney pathologies (UTKP).

Method: We evaluated positive urine cultures (≥ 100,000 CFU) during 2011-2012 and compared bacterial specimens and resistance patterns of children with and without UTKP.

Results: A total of 470 positive urine cultures were analyzed (female 87%; mean age 7.4 years, range 1 month - 18 years). 103 patients (22%) had UTKP. 76% of the bacterial strains were EC, 5% Proteus ssp., 4.3% Pseudomonas ssp., 4% Klebsiella ssp., 3.5% Enterococcus ssp. and 7.2% others. Children with UTKP had more non EC infections (n=44, 43%) than children without UTKP (n=72; 20%), relative risk 2.2 (CI 95%; 1.6-2.9, p<0.0001). We found more EC resistant to ampicillin (AMP) and/or sulfamethoxazole/trimethoprim (SXT) in children with UTKP (37%) than in children without UTKP (27%). Multiresistant EC (≥ three resistances) were found in 12% of UTKP and in 4% without UTKP, relative risk 1.52 (CI 95%; 1.12-2.07, p=0.0071).

Conclusion: Children with UTKP are at increased risk for UTI caused by resistant EC strains or by non EC bacteria.