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**Objectives:** We assessed the prevalence and antimicrobial resistance profiles of the most common uropathogens isolated from urine cultures in outpatient children with urinary tract infections (UTI).

**Methods:** A retrospective 10-year study (2004-2013) was conducted in outpatients younger than 18 years of age at the first episode of community-acquired UTI assisted in an ambulatory pediatric department, Cluj Napoca, Romania. We determined the antibiotic resistance patterns and trends of the first three most common uropathogens: *Escherichia coli*, *Proteus mirabilis* and *Klebsiella* spp. The strains were identified by conventional methods. Antimicrobial susceptibility testing was performed according to Clinical and Laboratory Standards Institute (CLSI) guidelines. Gram-negative bacilli were tested for extended-spectrum beta-lactamase (ESBL) production by double disk synergy test and organisms which showed resistance to three or more antibiotics of different structural classes were considered multidrug-resistant (MDR) as described elsewhere. The resistance rate to amoxicillin-clavulanate, second- and third-generation cephalosporins, gentamicin, ciprofloxacin and trimethoprim/sulfamethoxazole (TMP/SMX) were stratified by age group and gender. The data was analyzed by using Statistica version 8 software. We generated descriptive statistics, and for each antimicrobial agent univariable and logistic regression analysis were done.

**Results:** Among 550 children diagnosed with a first episode of UTI, feminine gender (68%) and the group of age 1 to 4 years (33%) were predominant. The most common uropathogens accounted for 94.8% of all strains: *E. coli* (73%), *Proteus mirabilis* (11.6%) and *Klebsiella* spp. (10.2%). Regarding the main uropathogens, we found high resistance rates for TMP/SMX (52%), second generation cephalosporins (30%), amoxicillin-clavulanate (29.3%) and lower rates for ciprofloxacin (12%), gentamicin (6%) and the third generation cephalosporins (5.5%). A high frequency of MDR strains was confirmed (23.6%), out of which 5% were extended-spectrum beta-lactamase (ESBL) producing bacteria. Stratified by gender, we found a significantly higher rate of MDR bacteria, resistance to betalactamine and TMP/SMX in boys (p 0.03, p 0.001 and p 0.03, respectively). In multivariate logistic regression, resistance to second generation cephalosporins, ciprofloxacin and TMP/SMX were predictive for MDR (R square 0.434; 0.391; 0.251; respectively, p<0.000). Resistance to ciprofloxacin and third generation cephalosporins were more frequently found in the 10 to 18 years group of age [OR 1.076, 95%CI (1.024 to 1.130) and OR 1.078, 95%CI (1.013 to 1.147) respectively]. A positive correlation was documented for resistance to amoxicillin-clavulanate and second generation cephalosporins (R 0.733, p<0.000). During the study period an increasing trend of MDR and cephalosporin resistance was observed (R square 0.877 and 0.843, respectively).

**Conclusion:** High resistance rates to trimethoprim/sulfamethoxazole and common beta-lactamines were documented in outpatient pediatric patients at the first episode of UTI. Multidrug-resistant strains were associated with male gender and resistance to second generation cephalosporins showing an increasing trend over time.