TRENDS IN ANTIMICROBIAL RESISTANCE OF URINARY TRACT PATHOGENS IN CHILDREN IN CRETE, GREECE: A SINGLE CENTRE EXPERIENCE

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Background

Urinary tract infection (UTI) constitutes a common cause of antibiotic use in childhood. Nowadays, there is a growing concern about increasing resistance to antibiotics and emergence of extended spectrum beta lactamase (ESBL) producing uropathogens.

The aim of the present study was to report the most common UTI pathogens and their antimicrobial resistance patterns among children in Crete and compare the results in the region with those reported ten years ago.

Methods

This 5-year (2012-2016) retrospective study records the uropathogens and their susceptibility patterns among children 30 days to 16 years old, who were discharged with the diagnosis of UTI from a District General Hospital in Crete. After identification of the bacteria, resistance patterns and presence of extended spectrum beta lactamases (ESBLs) were detected.

Results

UTI was diagnosed in 284 children (62.0% female; mean age 26 months).

The occurrence rates of isolated pathogens were:

Escherichia coli (*E. coli*) 75.4%

Klebsiella spp 9.15%

Proteus spp 5.28%

Enterobacter spp 3.87%

Pseudomonas aeruginosa 3.52%

Other 2.78%

Uropathogens responsible for community-acquired UTIs in pediatric population in Crete, 2012-2016

Antimicrobial resistant patterns of *E. coli*

Antimicrobial resistance of *E. coli* was most common to:

ampicillin (41.8%)

piperacillin (40.3%)

amoxicillin/clavulanic (28.6%)

trimethoprim-sulfamethoxazole (TMP-SMX) (17.8%)

4.20% of *E. coli* strains were ESBL-producing.

Resistance to ampicillin, TMP-SMX and piperacillin was noted for 46.4%, 16.9% and 46.5% of the total uropathogens, respectively, making these agents inappropriate for empirical treatment of febrile UTI in our region.

On the other hand, more than 90% of microorganisms were susceptible to ceftriaxone/cefotaxime, cefuroxime, and piperacillin/tazobactam, which seem to be effective for treatment of paediatric UTIs.

Conclusions

The antibiotic resistance, although decreasing, is still high in hospitalized children with UTIs in the study area.