

Joint Event

Hematology, Immunology & Traditional Medicine

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Features of antibiotic resistance in uncomplicated urinary tract infections in children and the effectiveness of immunoprophylaxis

The relapsing course of urinary tract infections (UTI) is an important issue. Repeated courses of antibiotics contribute to selection of multi-resistant microorganisms. Obviously, a new way of prevention, such as vaccination, has to be introduced.

The purpose of this study was to evaluate the effectiveness of a complex of frozen lyophilized microorganisms *Escherichia coli*, *Enterococcus faecalis*, *Proteus mirabilis*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Propionibacterium acnes*, for the prevention of recurrent UTI in children.

The study involved 30 children aged 5 to 15 years with an uncomplicated course of UTI and a frequency of 3 or more episodes per year.

The study found that pathogens of uncomplicated UTI were *E. coli* (64.7%), *Enterobacter aer.*, *Enterococcus faecalis*, *Enterococcus spp.*, *Proteus mirabilis*, *Proteus vulgaris*, *Pseudomonas aeruginosa*, *S hominis*, *Streptococcus haemolyticus*. Several pathogens were observed in 20% of patients, the presence of polymicrobial microflora correlated with the frequency of UTI ($r = 0.52$, $p < 0.05$). The resistance of microflora to antibiotics decreased in the following order: aminoglycosides (4%), carbapenems (9%), cephalosporins (9%), fluoroquinolones (13%), protected penicillins (17%), macrolides (22%), penicillins (26%).

Evaluation of the oral vaccination effectiveness after 6 months showed a decrease of frequency of UTI (before vaccination: 3.55 (95% CI 2.91 - 4.18); after: 0.93 (95% 0.57 - 1.29)) and also reduction of urinary syndrome signs (bacteriuria and leukocyturia). Side effects were not registered and 2/3 patients showed an improvement of their condition.

Thus, a multi-component vaccine can be a safe, effective alternative in prevention of UTI in children.

Biography

Stoieva Tetiana has completed her MD at the age of 38 years from Odessa National medical university. She is a professor and head of pediatric department in Odessa National medical university. She has published more than 100 papers in Ukrainian medical journals. Her areas of interest are children's immunology, nephrology, pulmonology, allergology.

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