Among all the diseases of the urinary system is dominated by microbial-inflammatory lesions, the prevalence of which is 29 per 1000 child population. Infections of the urinary system (UTI) in children taking recurrent character often against a background of violations of urodynamics of lower urinary tract.

**Objective**

The study of etiologic spectrum in children with urinary tract infection and neurogenic bladder dysfunction (NBD).

**Materials and methods**

The study was conducted in inpatient and outpatient facilities of Omsk from 2008 to 2014. A total of 434 children aged 4 to 15 years, one of them with NBD without UTI (I group) were 42 patients with NBD in conjunction with UTI (II group) - 257 (pilonefrity at 68.3%, cystitis in 31, 7%), with an UTI without NBD (III group) - 135 (pilonefrity at 72.1%, from 27.9% cystitis).

Bacteriological urine culture on the flora with definition of sensitivity to antibiotics performed in children with leukocyturia 10 or more using Urin System Plus (Liofilchem, Italy). At the same time the urine was examined for the presence of Cytomegalovirus, Gerpesvirus simplex I-II, Mycoplasma genitalium, Chlamydiae trachomatis, Ureaplasma urealyticum by polymerase chain reaction (PCR). Data processing was performed using STATISTICA 10.0 software package (StatSoft Inc, USA).

**Results**

Pyuria was identified in 392 (90.3%) of the 434 patients included in the study. There were significant differences in the microbial landscape between the II and III groups. A positive urine culture results (bacteriuria ≥105 cfu) in group II was observed in 73 patients in group III at 92. Microbial landscape of urine in combination NBD with UTI is characterized by sowing Staphylococcus strains in 22 (30.1%) patients, Escherichia coli in 18 (24.7%). When UTI without NBD Staphylococcus strains were found in 10 (10.9%) patients (p = 0.03), E. coli in 62 (67.4%) (p<0.001). In both groups, was conducted to determine the sensitivity of urine microflora to antibiotics. The most sensitive microorganisms in children of both groups to the "protected" penicillins (II c - 57 (78.3%), III c - 63 (68.5%). $\chi^2 = 0.1112$), cephalosporin II-III generation (II c - 53 (72.4%), III c - 73 (79.3%). $\chi^2 = 0.3776$), which makes them a priority as initial therapy for the treatment of microbial-inflammatory processes.
In a study of urine by PCR Cytomegalovirus, Gerpesvirus simplex I-II, Mycoplasma genitalium, Chlamydiae trachomatis, Ureaplasma urealyticum of 249 surveyed positive results were obtained in 49.0% of cases, and in the I c. positive results were only 6.3%, whereas in the II c. - 45.6% to III c. - 56.9%. 33.0% of children have been found DNC of cytomegalovirus (CMV), significantly more children with urinary tract infection. Chlamydia, Mycoplasma and ureaplasma detected in 14.8% of children surveyed 4.8% in combination with the bacterial flora and to 10.0% in the form monoinfection.

When comparing topics lesions and PCR positive results in children with UTI found that in the group of children with infections of the lower urinary tract significantly more often detected CMV (57.5% of cases) than in the group of children with the infection of the upper urinary tract - 27.7% (p = 0,041). Etiologically significant factor CMV can not be considered, since the study of urine in these children by IFA (n = 46) IgM were detected only in 3 children belonging to group III and avidity index for IgG in all children exceed 50%. A significant increase in performance in children IgM with UTI compared with controls: II gr. - 3,3 ± 0,3mg / l (p = 0,02), III c. - 4,2 ± 0,4mg / l (p = 0,006), IV c. (Control) - 2,1 ± 0,3mg / L.

**Conclusion**

It was found that children with NBD dominated by the Staphylococcus family in the microbial landscape of urine, unlike the spectrum uropathogens children with UTI functionality without obstruction, which are characterized by the prevalence of E. coli, which can make a difference in the motivation of starting antibiotic therapy. The high frequency of detection of CMV in urine indicates a significant decrease in immunity in children with UTI and NBD, it is necessary to take into account in the selection of adequate therapy for patients of different groups, including immunocorrective approaches.