

## ETIOLOGICAL STRUCTURE CHARACTERISTICS OF SEPSIS IN CHILDREN OF EARLY AGE

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**Annotation:** *There are the data of the bacteriological examination of 607 biomaterials from the different regions of 390 ill children organism for 2021 year in this article. As well as there were studied the sensibility to the different antibiotics of the cultured microorganisms. The performed examinations showed that 78.4% of cultured bacteria were grampositive bacteria, and 21.1% of cultured bacteria were gramnegative bacteria, what confirmed their leader role in the etiology of the sepsis.*

**Keywords:** *sepsis, bacteriological examination, sensibility to antibiotics, children*

The problem of sepsis in children is still relevant due to the high mortality rate (from 40% to 70%). According to the data of the SSV of the Republic of Uzbekistan, the rate of death caused by sepsis is up to 30% in recent years.

According to modern concepts, sepsis can be a widespread form of purulent inflammatory infection caused by almost 40 types of pathogenic and opportunistic bacterial microflora. Gram-positive (staphylococci - up to 60%) and gram-negative bacteria (36.0%) are the most common causes in the etiological structure, and associations of microbes are considered in 4.0% of cases. In rare cases, sepsis can be caused by streptococci.

The purpose of the study. Study of the etiological structure of sepsis in early-aged children - morphology, tinctorial, cultural-biochemical properties of isolated microorganisms and their sensitivity to antibiotics.

In 2021, 390 children were examined in the early age children's department of the multidisciplinary clinic of the Tashkent Medical Academy, and 607 biomaterials were taken from different places and bacteriologically analyzed in order to identify pathogenic and conditionally pathogenic flora. Mainly for analysis, throat (57.0%), determination of purity of blood (23.7%), bacteriological analysis of urine (9.7%), smear from nose (5.3), fecal biomaterials were arranged (Fig. 1.) . Materials taken from patients were examined for staphylococcus, streptococcus, enterococcus, enterococcus, klebsiella, proteus, and candida fungi. From the total examined biomaterials, 157 (25.8%) different types of conditionally pathogenic microbes were isolated, and all microbiological parameters: morphology, tinctorial, cultural-biochemical characteristics of them were fully studied. The sensitivity of isolated gram-negative and gram-positive microorganisms to various antibiotics was studied. Antibiotic sensitivity was determined by the disk diffusion method using a collection of antibiotic standard discs on Mueller-Hinton agar.

Investigations showed that in monoculture the majority of cocci flora is 68 (43.3%). Among them, especially more golden staphylococcus was isolated - 48 (30.5%). Gram-negative flora made up 63 (20.1%) and the most isolated of them - 52 (16.6%) Escherichia coli. The

etiological composition of bacterial sepsis in early-aged children was made up of gram-negative (20.1%) and gram-positive (78.7%) and various associations of microorganisms (1.3%). Microorganisms were mainly isolated from the mucous membrane of the throat (25.3%), urine (14.3%) and blood (16.3%).

When the spectrum of microbes in the throat of bacterial sepsis was studied (Fig. 2), the most isolated microorganism was *St. aureus* (41.4%). In 2nd place, non-hemolytic streptococcus was isolated - 26.1%. *E. coli* and hemolytic streptococci were found in 11.9 and 11.4% of cases. The remaining microorganisms were observed in small quantities.

When studying the spectrum of microbes in the blood of sepsis in early age children, mainly epidermal staphylococcus (40.5%) and golden staphylococcus (21.6%) were isolated. In addition, hemolytic staphylococcus and *Escherichia coli* were isolated in 13.5% of cases, and *Klebsiella* and saprophytic staphylococcus in 5.4% of cases. When the spectrum of microbes in urine was studied, mostly gram-negative microorganisms - *Escherichia coli* (27.9%), gram-positive - epidermal (23.3%) and saprophytic staphylococci (20.9%) were found. Other microbial species were identified less frequently. When the sensitivity of isolated and studied microorganisms to various antibiotics was studied (table 1.), gram-positive flora - *St.aureus* was more sensitive and sensitive to azithromycin (95.8%), cephalosporins, and chloramphenicol (85.4%) was determined. Sensitivity to penicillin was observed in less cases - 32.8%. *St. epidermidis* was more sensitive to amikacin - 90.4%, to azithromycin - 84.8%, and less sensitive to oxacillin (12.8%). High sensitivity of gram-positive flora - *Escherichia coli* to amikacin - 98.8%, cefaperazone - 96.5% and cefepime - 97.6% was noted. It should be noted that 71.8% of *E.coli* were sensitive to penicillin, and only 14.7% to cefazolin. Thus, children with sepsis are highly sensitive to isolated microorganisms and it is very important to use properly selected antibiotic therapy.

1. The etiological composition of bacterial sepsis in early-aged children was made up of gram-positive (78.7%), gram-negative (20.1%) and associations of microbes (1.3%).

2. When studying the microbial spectrum of bacterial sepsis, it was observed that *St. aureus* was mainly isolated from the throat (41.4%), blood (21.6%) and urine (7.0%).

3. When analyzing the sensitivity of the isolated and studied microbes to various antibiotics, *St. aureus* is sensitive to azithromycin (95.8%), cephalosporins and chloramphenicol (85.4%); *St. epidermidis* - to amikacin (98.8%), cefaperazone (96.5%) and cefepime (97.6%); *E.coli* was found to be highly sensitive and susceptible to penicillin (71.8%).

4. Antibacterial therapy with antibiotics with high activity against gram-positive and gram-negative pathogenic microorganisms should be used for the effective and complex treatment of early-aged children with sepsis.

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