the addition of C at concentrations of 3, 5, 7 and 9 mmol/l. After 24 hours every hour an optical density of the broth at 580 nm was measured. The concentration of C was determined in samples before and after cultivation. The concentration of C was determined in 37 patients, which were included in 3 groups: 1 — "classical" staphylococcal infection (abscess, phlegmon, carbuncle, mastitis, hydradenitis); 2 — secondary infection of wounds with staphylococci; 3 — "not staphylococcal" infections. To determine the level of C in the culture medium or serum, an enzymatic method was used. Statistical processing of data was carried out using the paired version of Student's t-test.

It was found that C in all concentrations does not have a bactericidal effect on *Staphylococcus* spp. Before cultivation of *S. aureus* the level of C was 3.16±0.06 and after — 2.69±0.04 mmol/l ($p < 0.05$). Such decrease may be due to the fact that *S. aureus* includes in its metabolism the disrepared diphosphate necessary for the synthesis of the cell wall. Under cultivation of *S. aureus* in the presence of C the accumulation of biomass was more intense than in a medium without C. A direct relationship between the accumulation of the biomass of the microorganism and the level of C was shown. In assessing the kinetics of growth of *S. epidermidis*, a similar picture was established. A feature of *S. epidermidis* was an increase in the biomass of cells in a stationary growth phase in the presence of 7 mmol/l of C.

In patients of the 1st group the level of C was 4.6±0.3; 2nd — 3.28±0.26; 3rd — 4.10±0.37 mmol/l. In general, the level of C in patients of the compared groups corresponds to the age norm. However, in patients of the 2nd group concentration of C significantly differs from the values of the 1st group. We assume that in a secondarily infected wound the processes metabolism of microorganisms proceed more intensively, as a result of which C can be utilized more by staphylococci, which leads to decrease in its concentration.

Thus, staphylococci are able to include in their metabolism human C, which may be necessary for them for plastic purposes.

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SENSITIVITY OF BIOFILM CULTURES *KLEBSIELLA* spp. TO CIPROFLOXACIN

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In the study researched the effect of 10-, 100-, 1000-fold values of the minimum inhibitory concentration (MIC_{90} = 2 μg/ml, literature data), of the antimicrobial preparation ciprofloxacin on *Klebsiella* spp. autostrains isolated from coprological probes of kids under 5 years old. The experiment included 47 biofilm-forming *Klebsiella* spp. cultures (28 strains of *K. pneumoniae* and 19 isolates of *K. oxytoca*). A study of the ability of clinical strains to form a biofilm, as well as the influence of a number of concentrations of antibiotic on mature (48-hour) biofilm was carried out in sterile polystyrene plates in a microvolume. Mature biofilm cultures were incubated with ciprofloxacin during the 12 hours under standard conditions with a preliminary purification from plankton cells. The results were considered by optical density of the dye-1% crystal-violet bound to the film on a spectrophotometer at a wavelength of 492 nm. The biofilm formation coefficient was calculated as the ratio of the average value of the optical density of the sample to the average value of the optical density of the negative control. The value of the coefficient ≥ 2.1 was taken as positive.

Biofilms formed by *K. oxytoca* autostems when exposed to ciproflocacin at concentrations exceeding 100- and 1000-fold the MIC_{90} were completely destroyed. When exposed of 10-fold the MIC_{90}, the cells adhering to the surface of the wells formed biofilms that were preserved in 30% of *K. oxytoca* isolates. Among biofilms formed by strains of *K. pneumoniae* 48.3% were insensitive to a 10-fold concentration of ciproflocacin. 35.7% out of this insensitive isolates were insensitive to a 100-fold concentration of the antibacterial drug. In addition, a strain of *K. pneumoniae* was detected, which biofilm was not destroyed by a 1000-fold concentration (2000 μg/ml) of ciprofloxacin. The zone of inhibition of growth of this strain to ciprofloxacin, which investigated by the disco-diffusion method was absent; the strain was characterized as resistant.

Mature biofilms of strains of *K. pneumoniae* were significantly less damaged by exposure to selected concentrations of the antimicrobial drug, ciprofloxacin, compared to *K. oxytoca* isolates.

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THE CORRELATION BETWEEN BIOFILM-FORMATION ABILITY OF *KLEBSIELLA* spp. AUTOSTRAINS AND ANTIBIOTIC SENSITIVITY OF PLANCTONIC CELLS

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The former study is related to planktonic cells *Klebsiella* spp.(n = 117) isolated from coprological probes of kids with disbiotic disorder. These cells were isolated using disc-diffusion method to examine the correlation between their sensivity to 11 antibiotics and ability to form firm biofilms in the wells of polystirol microplate.

The study revealed that isolates of *K. pneumoniae* had more autostrains able to form biofilms that *K. oxytoca* (n = 84, 72.6% and n = 33, 60.6% respectively). More frequently strains were resistent to amoxicillin (*K. oxytoca* — 9%, *K. pneumoniae* — 26%). The insufficient share of biofilm structures can be explained by vast spread of antimicrobial medication.

All studied autostrains of *K. oxytoca* did not reveal resistence to the majority of antimicrobial medication like imipenem, ertapenem, meropenem, cefepimum, ciprofloxacin, levofloxacin. Strains of *K. oxytoca* which do not form biofilms were completely sensitive to tetracycline, chloramphenicolum, moxifloxacin, doxycycline. In this, intestinal isolates of *K. oxytoca* which form biofilms lowered their sensivity up to 5% (tetracycline, chloramphenicolum, moxifloxacin) and 10% (doxycycline).

K. pneumoniae strains did not reveal resistance to imipenem, ertapenem. Isolates of *K. pneumonia* which do not form biofilms were completely sensitive to moxifloxacin, chloramphenicolum and meropenem. Biofilm-forming strains had lesser sensitivity up to 8.2; 3.6; 3.3; 1.6% respectively. Sensitivity of *K. pneumoniae* was 95.7% to levofloxacin. Sensitivity of *K. pneumoniae* autostrains was 95.7% and for biofilm-forming strains was lowered up to 10.4%. Sensitivity of non-biofilm isolates of *K. pneumoniae* to doxycycline and ciprofloxacin was 91.3%, and for non-biofilm — 84.4; 73.8% respectively.

The study revealed that planktone cells *Klebsiella* spp. are able to form biofilm what makes them resistent to most common antibiotics.