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Blood biochemical indexes in mice with peritonitis during antibiotic and bacteriophage treatment

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Introduction. Levels of plasma C-reactive protein (CRP) were checked for assessment of dynamics of protective inflammatory process during antibiotic and bacteriophage treatment of peritonitis.

Materials and Methods. 80 mice have been taken for experiment. 70 of them have peritonitis is caused by E. coli and 10 are healthy. Reference group includes 10 healthy mice, comparison group includes 10 ill animals and 6 experimental groups of ill mice (each group includes 10 mice) with different antimicrobial regimen for the treatment of peritonitis. 1st, 2nd and 3rd groups are treated with amikacin (A), gatifloxacin (G) and combination of A with G. 4th, 5th and 6th groups besides antibiotics Bacteriophagum Coli-Proteicum (BCP) was administered: A plus BCP, G plus BCP and A with G plus BCP.

Measurement of CRP was done at the 1st and 3rd days of treatment. Semiquantitative immunoturbodimetrical assay was used. Set of reagents was produced by "Phyllis Diagnostics" Dnepropetrovsk, Ukraine. Probe with CRP level higher than 15 mg/l were estimated as positive. Concentration of CRP equal to 6-15 mg/l - weak positive. Less than 6 mg/l - negative.

Results and Discussion. During all period of supervision index of CRP of the referent group was 12±1.8 mg/l and comparison group - 22.4±2.5 mg/l. At the 1st day of therapy indexes of 1st - 6th groups were not differ from comparison group indexes authentically. At the 3rd day decrease CRP level was valid (p<0.05) in the 5th group with combined therapy G plus BCP (14.5±1.4 mg/l) and 6th group with A plus G plus BCP (15.2±1.5 mg/l). Therapy with A, G and combination of A plus BCP did not cause significant changes of CRP levels during whole period of supervision.

Conclusions. In 5th and 6th groups which got combined therapy with G plus BCP and A plus G plus BCP levels of CRP were decreased faster than in other groups. Thus recovery rate of homestasis and reparative processes were faster inside 5th and 6th groups. So, offered antimicrobial regimens are effective.