

HISTOMORPHOLOGICAL CHANGES IN ORGANS USING AN EXPERIMENTAL MODEL OF BALB/C MICE, INFECTED WITH DIFFERENT *E. COLI* STRAINS

Albina Aniulienė¹, Ina Pamparienė², Nomeda Juožiukynienė¹, Judita Zymantienė², Vaidas Oberauskas², Rita Plančiūnienė³

¹Department of Veterinary Pathobiology, ²Department of Anatomy and Physiology,

³Institute of Microbiology and Virology of the Lithuanian University of Health Sciences, Kaunas, Lithuania

Corresponding author: Albina Aniulienė, e mail: albina.aniuliene@lsmuni.lt

Abstract. The aim of this work was to determine an effect of endotoxin of *E. coli* strain ATCC 35218 serotype O6:H31:K-, strain RRW-1 serotype O8:H24:K-, and strain K-12 MG165 serotype O12:H48:K- on histomorphological changes in the organs using an experimental model of BALB/c mice. The first group (n=3) was control group and 0.1 ml 0.85 % NaCl solution was injected into the peritoneum. The second group of mice (n=12) was divided into the 4 subgroups (n=3) and 0.1 ml of strain *E. coli* RRW-1 serotype O8:H24:K- according to the dilutions 1:1; 1:10; 1:100 and 1:1000 were injected into the peritoneum. The third group of mice (n=12) was divided into the 4 subgroups (n=3) and 0.1 ml of strain *E. coli* ATCC 35218 serotype O6:H31:K- according to the dilutions 1:1; 1:10; 1:100 and 1:1000 were injected into the peritoneum. The fourth group of mice (n=12) was divided into the 4 subgroups (n=3) and 0.1 ml of strain *E. coli* K-12 MG165 serotype O12:H48:K- according to the dilutions 1:1; 1:10; 1:100 and 1:1000 were injected into the peritoneum. All mice of the third group were dead within 20 hours after injection of strain *E. coli* ATCC 35218 serotype O6:H31:K- dilution 1:1. All strains and serotypes of *E. coli* caused histomorphological changes in the mice organs. The most severe changes in the organs were caused by ATCC 35218 serotype O6:H31:K- dilutions 1:1, 1:10, similar changes were caused by *E. coli* RRW-1 serotype O8:H24:K-, dilutions 1:1 and 1:10. Dilution 1:1 of K-12 MG165 serotype O12:H48:K- caused mild lesions in some organs. Pathogenic *E. coli* strains caused blood circulatory disturbances: hyperaemia, thrombosis, haemorrhages; hepatitis and nephrosis with immune response reaction, hyperplasia of lymphoid organs (spleen, lymph nodes).

Keywords: mouse, *E. coli*, strains, organs, pathology