

TITLE: EVALUATION of the HISTOLOGICAL CHANGES of the LARGE INTESTINE in the PORTION of the CECUM in SWISS MICE INTRAPERITONEALLY INFECTED by DIFFERENT STRAINS of *Escherichia coli*.

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ABSTRACT:

The *Escherichia coli* (*E. coli*) is an important member of the human intestinal microbiota, colonizing the gastrointestinal tract, especially newborn children, however, strains commensal can cause extensive disease in immunocompromised patients, mainly by the ability to adapt and transfer of virulence factors. Diarrhea is a major public health problem and one of the major causative agents of bacterial diarrhea in the world is the enterohemorrhagic-*Escherichia coli* (EHEC) and can cause bloody diarrhea (hemorrhagic colitis), non-bloody diarrhea and hemolytic uremic syndrome (HUS). Considering the problem of diarrheal diseases and the pathogenicity of this strain, this work aimed to establish a relationship between histopathological changes at the beginning of the intraperitoneal infection by enterohemorrhagic - *Escherichia coli* (EHEC-EDL 993) in female Swiss mice. For this 64 mice were divided into 3 groups, control, infected with American Type Culture Collection (ATCC25922) and infected with EHEC, at 24 hours of infections they were euthanized, and evaluated the morphological changes of cuttings of large intestine in the portion of the cecum of animal use obeyed the rules laid down by the Brazilian College of Animal experimentation, and the trial Protocol approved by the Committee of ethics in Animal experimentation of Philadelphia University Center (number 001/2014). By means of the histological analysis, we noticed a predominance of infiltration of inflammatory cells, decreased amount of Goblet cells, as well as decrease in size of the intestinal villi in mice infected with EHEC compared to the control group and ATCC corroborating previous studies. Therefore, we can conclude by such analyses that EHEC strains and ATCC have different forms of invasion to the host, because of this, the histopathologic changes from different paths runs through strains.

KEYWORDS: histopathologic review, pathogenicity, *Escherichia coli*.

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