TITLE: GENOTYPIC INVESTIGATION OF VIRULENCE FACTORS ASSOCIATED WITH AVIAN PATHOGENIC E*scherichia coli* (APEC) IN HUMAN FAECAL SAMPLES IN THE NORTHERN REGION OF PARANA

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ABSTRACT:

Poultry farming is one of the most important segments of agribusiness at national and international levels. However, the growth in poultry production may be accompanied by increased sanitary vulnerability, expanding the risk of spreading infectious diseases of great economic impact. Avian Pathogenic *Escherichia coli* (APEC), which belongs to the group of Extraintestinal Pathogenic *Escherichia coli* (ExPEC), is an important bacteria in this scenario, responsible for causing avian colibacillosis. Some studies have highlighted similarities between APEC and human ExPEC and have raised hypotheses that avian pathogenic strains may infect humans and the possibility of these being reservoirs to APEC. Considering that there are few studies in Brazil, which carried out the effective investigation of these hypotheses, the present study aimed to investigate the presence of human *E. coli* carrying virulence factors associated with APEC. A total of 200 *E. coli* colonies were isolated from 78 stool samples from patients assisted in Clinical Hospital of the State University of Londrina, Paraná, Brazil, between September and December 2017. Virulence markers of APEC (*iroN*, *ompT*, *hlyF*, *iss* and *iutA*) investigated in this study were determined using the technique of Polymerase Chain Reaction (PCR). Of the 78 samples surveyed, 35 presented at least one of the five virulence factors investigated, while one presented positivity for all. The results obtained in this study allow to elucidate that human bacteria may present virulence genes associated to ExPEC with high potential to reservoir of virulence genes for APEC strains. Thus, since APEC is a bacterium of great importance to both the economy and the public health of the country, it is essential that potential reservoirs of these microorganisms be investigated.

Keywords: avian, pathogenic, *Escherichia coli*, virulence factors

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