Title: PATHOTYPES OF DIARRHEAGENIC Escherichia coli FROM CHILDREN WITH DIARRHEA IN THE NORTH OF PARANÁ STATE, BRAZIL

Authors: Lopes-Dambrozio, A.M.[1]; Burgos, T.N.[1]; Schuroff, P.A.[1]; Lima, N.R.[1]; Vespero, E.C.[1]; Rocha, S.P.D.[1]; Kobayashi, R.K.T.[1]; Nakazato, G.[1]; Pelayo, J.S.[1]

Institution: [1] UEL – Universidade Estadual de Londrina (Rodovia Celso Garcia Cid, Pr 445 Km 380, Londrina, PR)

Abstract:

During the twentieth century, Brazil went ample changes in its population structure and its morbidity and mortality patterns.However, infectious diseases are still important morbidity problems, especially in children. Amid these diseases there are the intestinal infections and *Escherichia coli* is the most common etiological agent among the bacterial pathogens. Diarrheagenic *Escherichia coli* (DEC) are important enteric pathogens that cause several gastrointestinal diseases, particularly among children in developing countries, resulting in significant morbidity and mortality. A total of 426 *E. coli* colonies were isolated from 71 stool samples from children with diarrhea between 0 and 12 years old, of University Hospital of the State University of Londrina, Parana, Brazil, during the years 2013 to 2014. Virulence genes of the five DEC pathotypes investigated in this study were determined using the technique of Polymerase Chain Reaction (PCR). The HEp-2 cell adherence assay was performed on all samples analyzed for phenotypic characterization. It was found among the strains studied by PCR 21.2% of DEC, with 8.5% of Enteropathogenic *E. coli* (EPEC), all of atypical EPEC subgroup, 4.2% of Shiga toxin-producing *E. coli* (STEC) and 8.5% of Enteroaggregative *E. coli* (EAEC), all of these typical EAEC subgroup. However, genes of other pathotypes studied in this work, Enterotoxigenic *E. coli* (ETEC) and Enteroinvasive *E. coli* (EIEC) were not found in these clinical isolates. The ability to adhere to HEp-2 cell culture was evaluated and the aggregative adhesion pattern predominated in these isolates being 66.2% atypical EAEC. Thus, it was demonstrated that DEC are still important pathogens in the etiology of childhood diarrhea and epidemiological studies may help minimize the possible dangers of these pathogens against public health.

Key words: *Escherichia coli.* Diarrhea. Children. Genes. Patothypes.

Development agency: Fundação Araucária