Title: ENTEROPATHOGENS ASSOCIATED WITH CHILDHOOD DIARRHEA IN THE INSTITUTE ADOLFO LUTZ SANTO ANDRÉ LABORATORY REGIONAL

Authors Daurelio, F.P. [1] , Mucci, E.R. [1], Carmo, A.M.S. [1], Candido, V.S. [1], Silva, R.R.F. [1], Dos Santos, L.F. [2], Romero, E.C. [2], Lima, E.O. [2], Tiba, M.R. [2], Vigilâncias Epidemiológicas Municipais de Mauá, Ribeirão Pires e São Bernardo do Campo [3], Cergole-Novella, M.C. [1]

Institutions [1] Centro de Laboratório Regional do Instituto Adolfo Lutz de Santo André VIII, [2] Centro de Bacteriologia do Laboratório Central do Instituto Adolfo Lutz, [3] Vigilância Epidemiológica de Mauá: Del Ré, K.C., Marinho, F., Walendy, C.H. Vigilância Epidemiológica de Ribeirão Pires: Dias, M.E.S.T., kanon, J.H.S., Matos, E.C.R., Guirra, E.F., Zanon. C.A. Vigilância Epidemiológica de São Bernardo do Campo: Alves, C.R., Marson, A.M., Martins, A.L., Caetano, M.L.

Abstract:

Campylobacter, diarrheagenic *Escherichia coli*, *Salmonella* and *Shigella* are leading bacterial causes of food-borne illness in humans, mainly children younger than five years of age. The aim of this study was to determine the prevalence and epidemiology of enteropathogens in young children with diarrhea and in healthy control subjects, geographically located in the same area - Santo André, São Bernardo do Campo, Mauá, and Ribeirão Pires, during 3 months in 2015. Stool samples were transported at room temperature in a Cary Blair medium, inoculated on selective, enriching, specific and chromogenic culture medium. The isolation and presumptive identification of etiologic agents were performed by conventional microbiological analyses, API test (Biomerieux), immunomagnetic separation with magnetic beads coated with antibody against *E. coli* 0157, multiplex PCR and/or serotyping, and antimicrobial susceptibility testing. Enteropathogens were identified in 15 out of the 59 (25.4%) stool samples analysed. Nine (9 of 15, 60%) were cases of children with mostly onset of symptoms between the first and the third day (mild diarrhea), and 6 (40%) of controls; most children belonged to families with monthly income upper to minimum wage; larger isolates were mainly of children from 7 to 25 months old; Diarrheagenic *Escherichia coli* was most frequent (86.6%) followed by one case of Shigella *sonnei* (6.7%) and one *Salmonella enterica* subspecies *salamae* (6.7%). Campylobacter has not been isolated in neither the cases nor in the controls. Seven of the 15 (46.7%) enteropathogens were sensitive to all the 15 antimicrobial agents tested, while 5 (33.3%) of them were resistant and three (20%) presented intermediate resistance. Multi-drug resistance occurred only to the *Shigella sonnei* strain. The antimicrobials to which resistance was most frequently observed were to tetracycline (60%), and ampicillin and sulphazotrin (40%, respectively). Diarrheagenic *Escherichia coli* was the most predominant enteropathogen associated with infantile diahrrea. The highest frequencies of susceptibility to antimicrobial agents were observed among enteropathogens strains, however, resistance and multi-drug resistance also were observed. Constant antimicrobial surveillance is warranted to be observed for the emergence of enteric bacteria resistant to antimicrobials that are also important in treatment of severe infections.

Key Words: Prevalence, Enteropathogens, Diarrhea, Children

Financial support: FAPESP