

TITLE: LABORATORY SURVEILLANCE OF THE *SHIGELLA/ESCHERICHIA COLI* ENTEROINVASORA COMPLEX IN CEARÁ, BY PCR MULTIPLEX NESTED, IN THE PERIOD FROM 2021 TO 2022

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ABSTRACT:

Shigella spp. is one of the leading causes of infectious diarrhea in the world. The main source of contamination of Shigellose is contaminated food and water, and it can also be transmitted orally-fecal and sexually. The expressive increase in cases of gastrointestinal infections caused by *S. sonnei* with extreme antibiotic resistance has been observed worldwide. This study aimed to report the incidence of the enteroinvasive *Shigella* spp./ *Escherichia coli* complex during the study period. Multiplex nested PCR was used for molecular detection of the enteroinvasive *Shigella* spp./ *Escherichia coli* complex, through the simultaneous investigation of 22 pathogens, of which thirteen are bacteria, five are viruses and four are parasites. This tool has great potential to support the decision to implement antimicrobial or antiparasitic therapy or not, in addition to allowing rapid etiological clarification in the context of outbreak investigations. From January 2021 to June 2022, 1110 fecal swab samples were processed, with distribution in different age groups and clinical conditions. The temporal variation in the prevalence of the *Shigella* spp. / Enteroinvasive *Escherichia coli* throughout the study period, had the following distribution: from February to August 2021 there was a prevalence in the months of July (n:6) and August (n:5) with the highest detection rates. In 2022, the highest detections were in March (n:8), May (n:7) and June (n:5), representing a higher positivity than that found throughout 2021. Regarding the distribution by gender, the most affected were men (n: 23), with 12 of the total being women. The age groups with the highest prevalence were 31 to 40 years (n:9), 41 to 50 years (n:8) and 0 to 10 years (n:9). The predominance of underlying diseases was HIV (n:14) regardless of age group, followed by ALL (n:2). The growing increase observed during the study period highlights the importance of laboratory and epidemiological surveillance as a form of early detection, providing timely measures for the prevention and control of its spread.

Keywords: *Shigella* spp, *Escherichia coli* enteroinvasora, PCR multiplex, molecular diagnosis.

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