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Título: Biofire® Filmarray® Gastrointestinal Panel: Experience In A Pediatric Hospital And Its Comparison With Conventional Methods

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Resumo: Introduction: Gastrointestinal infections continue to be one of the main causes of morbidity and mortality in children under 5 years of age, especially in developing countries. Its early etiological diagnosis is a challenge that is presented daily in the Laboratory of Microbiology. Among the molecular diagnostic techniques, the BioFire Gastrointestinal Panel (BGP) allows the detection of 22 pathogens (13 bacteria, 5 viruses, and 4 parasites) in approximately one hour. Objective: Describe the experience of the BGP in the Microbiology Service of the Dr. Humberto J. Notti Pediatric Hospital from Mendoza – Argentina and compare it with the usually used methodology. Method: An observational and cross-sectional study was carried out that included the results obtained from 168 stool samples for which BGP examination was requested between September of 2017 and June of 2018. 108 of them were carried out in parallel by conventional techniques. Results: Of the 168 tests performed by BGP, 45 (26.7%) resulted negative and 123 resulted positive (73.2%). Of the positives samples, in 54 (44%) a single pathogen was detected and in 69 samples (56%) more than one pathogen was detected. When analyzing the samples processed in parallel (n=108) by both methods, a low concordance between the positive and negative results was determined, taking into account that BGP detected pathogens in 81% of the samples and the conventional methods only in 22%. This shows the low performance of the available conventional methods. However, from 24 positive samples by the conventional methods, 91.6% coincided with the pathogen isolated by BGP. Conclusions: The present study shows that the use of the BGP allows an early detection of a high number of positive samples for a microorganism and co-detection of enteric pathogens. This new technology should be reserved for critical patients, or the suspicion of Hemolytic Uremic Syndrome, immunocompromised patients with diarrhea caused by Clostridium difficile, etc, where an early and accurate diagnosis is essential for decision making.