Use of a multiplex molecular assay for the detection of pathogens in stools from diarrheic patients

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INTRODUCTION

Infectious diarrheas may be caused by a large variety of pathogens such as bacteria, viruses and parasites.

Diagnostic laboratories use frequently bacteriological classic cultures on specific mediums, nucleic acid tests, immunological tests as immunochromatography and morphology observation after concentration techniques.

The use of multiplex assays should significantly reduce hands on time and cost, allowing a rapid and exhaustive result.

One multiplex assay based on the Luminex Universal Array is the xTAG® Gastrointestinal Pathogen Panel (xTAG GPP) performed well in comparison to conventional culture or immunochromatographic assays for the detection of gastrointestinal pathogens and provided useful informations in less than 5 hours.

The xTAG GPP assay was statistically more sensitive than culture for Salmonella detection (p<0.0001), Campylobacter detection (p=0.02) and Rotavirus, Noroviruses immunochromatographic assays (p=0.0001). E histolytica, Giardia and Cryptosporidium were detected with the xTAG whereas classical techniques were negative.

The xTAG GPP assay was statistically less sensitive (p<0.01) than monoplex PCR detection for shiga like toxin producing E. coli

OBJECTIVES

PATIENTS and METHODS

RESULTS

CONCLUSION