

Abstract

The disease acute gastroenteritis causes a big economic loss every year. The etiologic agents related to this disease are mainly rotavirus, enteric adenoviruses, calicivirus, and astrovirus. It is still unknown what is the role or importance of each of these viruses in causing gastroenteritis in Taiwan. In this study, we intend to study the prevalence rate and molecular epidemiology of each of these viruses in different areas of Taiwan. Fecal samples will be collected from clinical laboratories distributed in the northern, middle, southern, and east regions of Taiwan. The samples detected as rotavirus positive will be analyzed the subgroup specificity by ELISA, the G and P genotypes by RT-PCR, and the electropherotypes by RNA polyacrylamide gel electrophoresis. The genes of representative strains will be sequenced and compared with reference strains by phylogenetic analysis. The enteric adenoviruses and astrovirus will be detected by commercial ELISA kits. The positive samples will be further analyzed the serotype specificity by ELISA incorporating serotype-specific monoclonal antibodies or by RT-PCR. The calicivirus and coronavirus will be detected by RT-PCR, and genotyped by sequencing and phylogenetic analyses. Representative strains of rotavirus, adenovirus 40/41, and astrovirus will be tried to grow in cell culture. The molecular epidemiology of each of these gastroenteritis viruses will be analyzed.

Keywords : acute gastroenteritis ; rotavirus ; enteric adenoviruses ; calicivirus ; astrovirus ; coronavirus ; molecular epidemiology