CO-INFECTION OF ADENOVIRUS, NOROVIRUS AND TORQUE TENO VIRUS IN STOOLS OF PATIENTS WITH ACUTE GASTROENTERITIS

Meng-Bin Tang¹,#, Chia-Peng Yu²#, Shou-Chien Chen³,#,4 and Chien-Hsien Chen²

¹Department of Family Medicine, Wei-Gong Memorial Hospital, Toufen Township, Miaoli County; ²Department of Bioengineering, Tatung University, Taipei; ³General Education Center, Tatung University, Taipei; ⁴Department of Family Medicine, Da-Chien General Hospital, Miaoli City, Miaoli County, Taiwan

Abstract. Up to now, there has been no report of co-infection of torque teno virus (TTV) with other enteric viruses playing a role in the pathogenesis of viral acute gastroenteritis (AGE). We investigated the proportion, epidemiological and clinical features of concurrent infections of adenovirus (ADV), norovirus (NV) and TTV in stools of 155 patients with AGE attending Wei-Gong Memorial Hospital, Miaoli City, Taiwan. The presence of the three viruses were determined using PCR-based assays. Some 55% of the patients were infected with at least 1 enteric virus, among whom 18% were co-infected, NV and TTV being the most common (62%). Rate of co-infectious in AGE patients is correlated statistically significantly ($p < 0.05$) with age, fever and drinking of spring water. Furthermore, AGE children with co-infection have a higher hospitalization rate (69%). To the best of our knowledge, this is the first report of ADV, NV and TTV triple co-infection in children (2) with AGE. This study also revealed that TTV co-infection promoted the pathogenicity of other infectious agents.

Keywords: acute gastroenteritis, adenovirus, co-infection, norovirus, torque teno virus, Taiwan

Correspondence: Chien-Hsien Chen, Department of Bioengineering, Tatung University, Number 40, Sec. 3, Zhongshan N. Road, Taipei 10452, Taiwan.
Tel: +886 (2) 21822928 ext 6311
E-mail: chchen@ttu.edu.tw

#These authors contributed equally to this work.