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Clusters of acute gastroenteritis caused by *Norovirus* GII.4 Sydney variant during winter of 2012-2013 in Jinshan district of China

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Norovirus is the commonest cause of acute gastrointestinal disease and is the main aetiological agent of outbreaks of gastroenteritis, particularly in semi-closed environments. To analyze the epidemiological and molecular characteristics of NoVs causing clusters of *Norovirus* gastroenteritis during winter of 2012-2013 in Jinshan. Field epidemiological surveys were conducted and samples were collected to detect NoVs from October 2012 to March 2013, NoVs were detected by real-time RT-PCR and conventional RT-PCR. The PCR products were purified, sequenced, compared with the sequences in GenBank using on line server BLAST and the sequences aligned by using Clustal-W, employing MEGA 4.1 program to construct the phylogenetic trees. Eight clusters of *norovirus* gastroenteritis with 129 cases were reported in Jinshan, The attack rates were between 15.71% and 47.34%, and average attack rate was 27.77%. The outbreaks occurred in schools, nursery, kindergarten and elder care center were reported in winter and spring. Among all the fecal specimens, 46 (73.02%) specimens were NoV GII positive; 36 close contacts of 3 clusters (kindergarten, nursing homes and nursing homes) were included, the infection rate of *Norovirus* was 25.00% (9/36); among 20 environmental specimens, the positive rate of *Norovirus* detection was 40% (8/20). The genotype was conducted by analyzing the nucleotide sequence of RdRp and Capsid N/S gene. All strains sequenced belonged to G II.4-Sydney variants. It confirmed that 16 variants shared 98% identity of G II.4-Sydney variants by phylogenetic analysis. The short interval periods between all NoV outbreaks with identical viral strain indicated the emergence of a new NoV variant, while G II.4-Sydney variants was identified as the predominant strain in Jinshan. It is suggested that the development of monitoring programs on GII.4-Sydney variant should be a part of the NoV surveillance, and management of close contacts and disinfection of the environment are important in controlling clusters of *Norovirus* gastroenteritis controls.

Biography

Can-lei Song has graduated from Southern medical University at the age of 28 years. His major is Epidemiology and Health Statistics, and got his Master degree after his graduation in 2010. Before this, he had obtained Bachelor degree of Health Laboratory Technology from Ningxia Medical University in 2007. In July 2010, he attended Jinshan Center for Disease Control and Prevention. Since then he is working at Department of Acute Infectious Disease Prevention and Control, mainly being responsible for the control of intestinal infectious diseases. Till now, he has published more than 15 papers related to *Norovirus* in reputed journals.

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