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Phylogenetic analyses of the RpRd & Vp1 overlap region C and RpRd region A of the detected Norovirus genomes in Baghdad province

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Noroviruses (NoVs) are the most commonly recognized foodborne viral infection and second only to Rotavirus (RV) as a cause of severe diarrhea in children. The high burden of infection is because of their stability in the extreme environment condition, diversity of strains and low infective dose ranging between 10-100 virus particles which are enough to infect individual. Nucleotide sequence and phylogenetic analysis of the junction of open reading frame one (ORF1) and the open reading frame two (ORF2) and fragments of 60/81 (74.07%) positive samples results found that the appearance of five genotypes: GGII.4, GGII.2, GGII.17, GGI, GGI.3. The NVGII.4 was the most dominant strain with frequency percentage 61.6% and the higher frequency percentage 50% was belongs to the recombinant. It has been suggested that recombination could be an important mechanism by which GII.4 remains persistent in human population.

Table (1). The genotypes and the frequency percentage

Genotype	No of cases	Frequency %
GI.1/pelelu 1999	5	8.33
GI.3/p17 Aspen2004	5	8.33
GII.2/NV2624/2011, GII.2/DH-04623/2006	7	13.46
GII.4NewTaipei2012/GII.2 2006 2011	3	5
GII.4Faoyuan 2012	3	5
GII.4Faoyuan 2012/Bonaber1 2009	1	1.6
GII.4NewTaipei2012/ GII.4DNK 2012	30	50
GII.4NewTaipei2012/ GII.17 2011	3	5
GII.4NewTaipei2012/ GII.4Bonaber 2009	3	5
Total	60	100%

Recent Publications

1. Chan M C and Chan P M (2013) Complete genome sequence of a novel recombinant human norovirus genogroup ii genotype 4 strain associated with an epidemic during summer of 2012 in Hong Kong. *J. Genoma ASM. org.*, 1(1):140-142.
2. Puustinen L, Blazevic V, Huhti L, Szakal E D, Halkosalo A, Salminen M and Vesikari T (2012) Norovirus genotypes in endemic acute gastroenteritis of infants and children in Finland between 1994 and 2007. *Epidemiol. Infect.* 140(2):268-275.
3. Kele B, Lengyel G and Deák J (2011) Comparison of an ELISA and two RT-PCR methods for Norovirus detection. *Diagnostic Microbiol. Infect. Dis.* 70(4):475-478.
4. Bruggink L D and Marshall J A (2010) Molecular changes associated with altered patterns of Norovirus outbreak

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epidemics in Victoria, Australia, in 2006 to 2007. J. Clin. Microbiol. 48(3):857-861.

5. Menon V K, George S, Ramani S, liayaraja J, Sarkar R, Jana A K, Kuruvilla A K and Kang G (2010) Genogroup IIb norovirus infections and association with enteric symptoms in a neonatal nursery in Southern India. J. Clin. Microbiol., 48(9):3212-3215.

Biography

Khaled A Habeb has experience in teaching and supervision on both undergraduate and post graduate students. He has taught different subjects belonging to microbiology such as medical microbiology, clinical mycology, microbial toxins and microbial physiology. He has experience in evaluation and improving of probiotics application.

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