MOLECULAR EPIDEMIOLOGY OF NOROVIRUS GENOGROUP II AMONG CLINICAL ISOLATES IN SIRIRAJ HOSPITAL DURING 2017

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Abstract

Norovirus is the most common causes of the worldwide epidemic of acute gastroenteritis. Based on genetic variation of viral capsid VP1 genes. Norovirus can be classified into genogroup, and each genogroup can be sub-classified into genotype. The genogroups and genotypes distribution of norovirus has changed over time and emerging strains occurred every 2-3 years which leads to outbreak in wide area. Genotypes distribution and epidemiological data of norovirus that can help to prevent and control of norovirus outbreak still need to be updated.

In this study, The predominant genotype belongs to GII.2 (88%) followed by GII.3 (12%). For norovirus infection, Female has higher infection than male.The highest age range were children aged 0-1 year (44%).

Objective (s)

This study aims to determine the prevalence, genotypes distribution of norovirus genogroup II (GII) in molecular level and also observe the strains of emerging norovirus.

Material and Method(s)

This study focus on children under five years of age as they are susceptible and tend to develop more severe gastroenteritis. Stool samples were collected from Siriraj Hospital during 2017.
To determine viral genotype, stool samples will be screened for GII norovirus by using nested RT-PCR for viral VP1 genes.This process will be able to identify the genotypes of norovirus GII.

Results

- GII.2 and GII.3 were found in Siriraj Hospital.
- The predominant genotype was GII.2 (88%).
- The highest range of age belongs to children aged 0-1 year.
- The majority of gender of norovirus were female (67%).

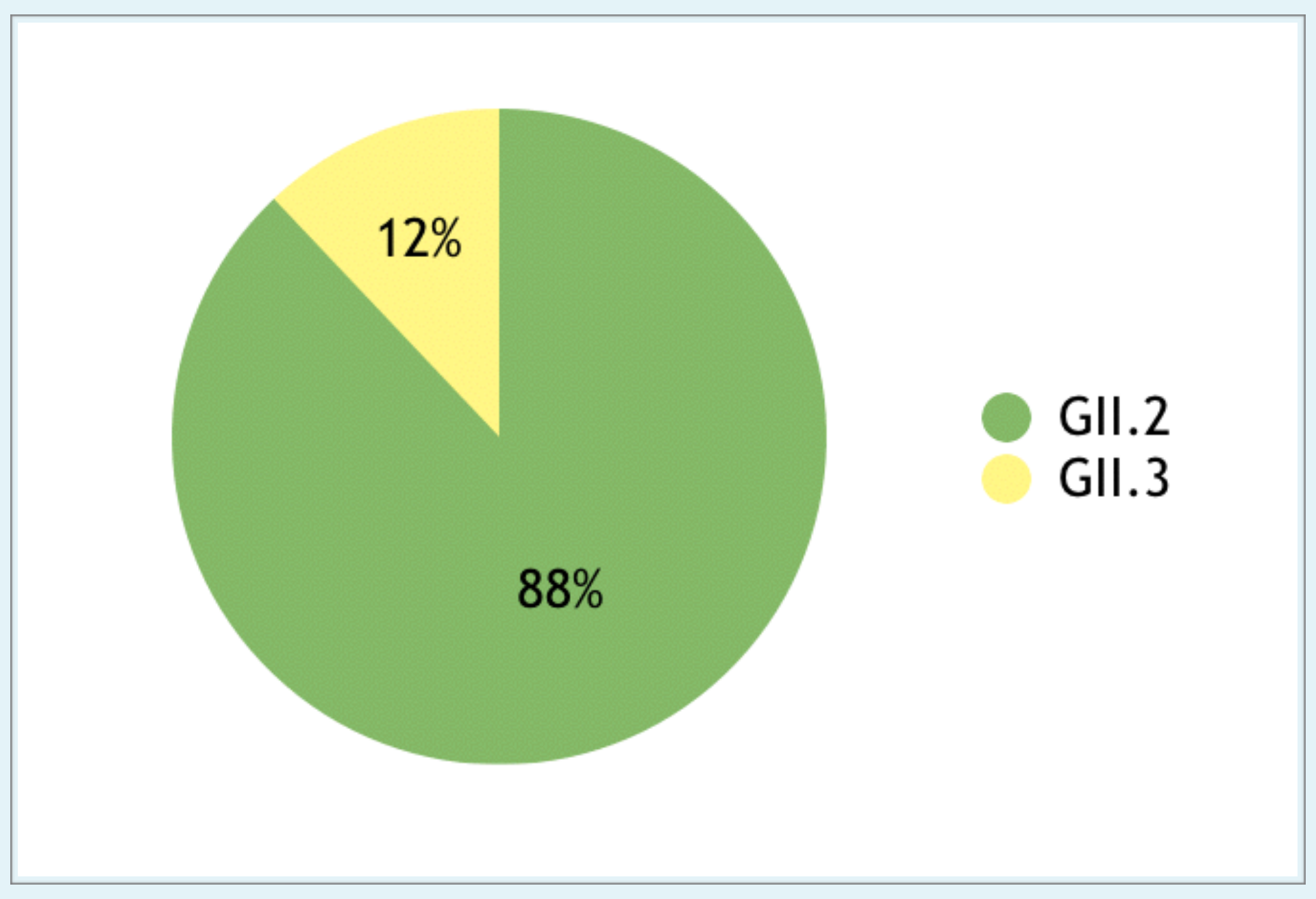

Figure 1. Genotype distribution of Norovirus infection.

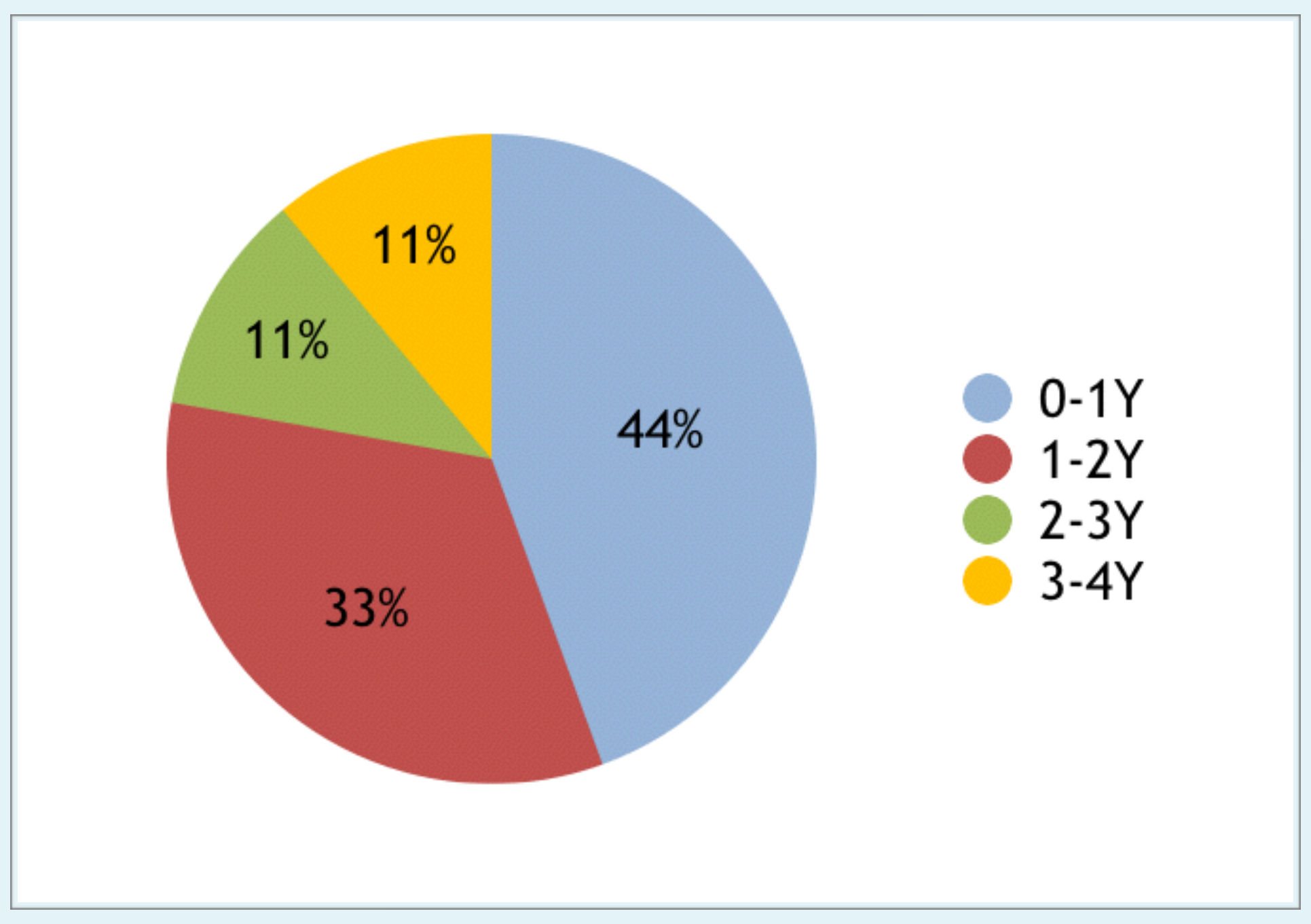

Figure 2. Age distribution on Norovirus infection.

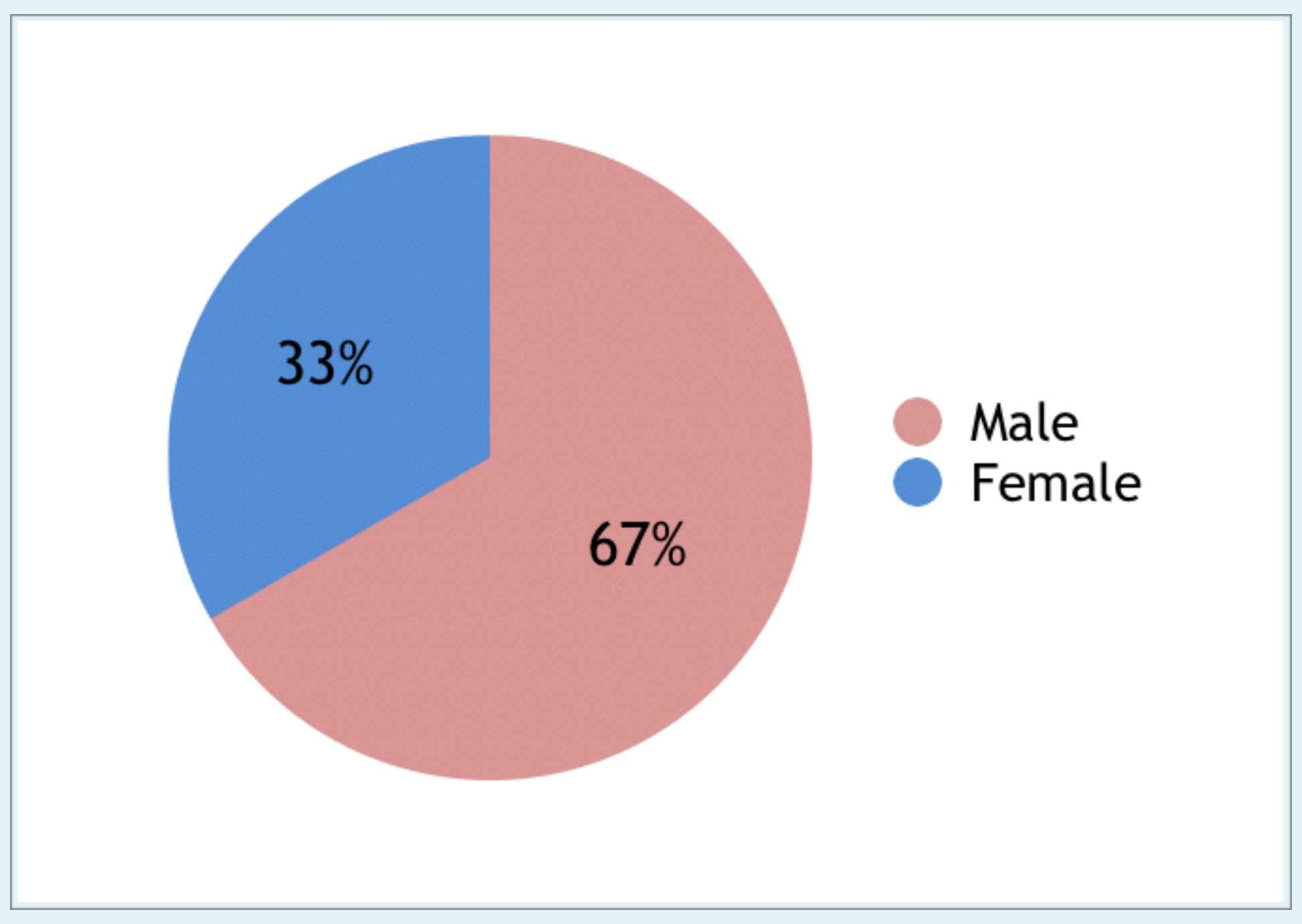

Figure 3. Gender distribution of Norovirus.

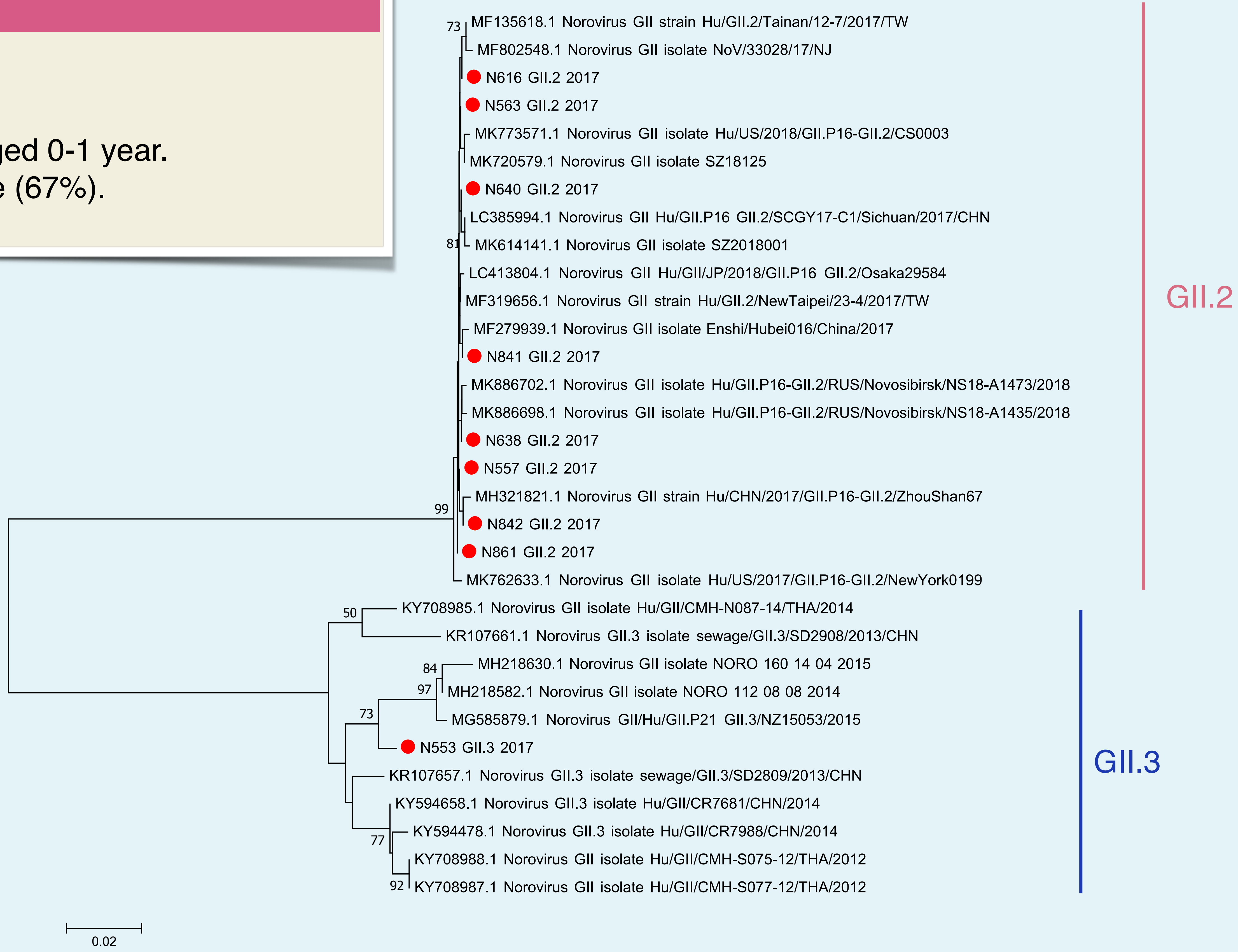

Figure 4. VP1 genotype of Norovirus GII distributed in Siriraj Hospital 2017.

Conclusion and discussion

The predominant genotype from this study was GII.2 which found to be distinct from previous study in 2016 (Chantasaenroj J et.al), that found GII.4 predominate. The change of this data might be from an outbreak of GII.2 strain from different area in Asia (Lanzheng L et.al). The youngest group age (0-1 year) tends to have highest norovirus infection. Female has higher infection than male though this demographic data varied in different study.

Acknowledgement

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