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Journal Title: Open Forum Infectious Diseases
Volume: Volume 4, Number suppl_1
Publisher: Oxford University Press (OUP) | 2017-10-04, Pages S317-S317
Type of Work: Article | Final Publisher PDF
Publisher DOI: 10.1093/ofid/ofx163.741
Permanent URL: https://pid.emory.edu/ark:/25593/s6f7h

Final published version: http://dx.doi.org/10.1093/ofid/ofx163.741

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Accessed November 19, 2019 2:23 AM EST

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Session 139. Adult Viral Infection
Friday, October 6, 2017: 12:30 PM

Background. Norovirus is the leading cause of acute gastroenteritis (AGE) outbreaks in the United States; however, little data exist on the burden of endemic norovirus transmission. Robust estimates of the norovirus disease burden among US adults are needed to inform assessment of potential norovirus vaccines, which are currently in development.

Methods. We conducted active surveillance for AGE at the Michael E. DeBakey VA Medical Center, Houston, TX. Surveillance included AGE-coded outpatient encounters and inpatient discharges, and dividing by the unique patients served at each VA Medical Center (VAMC). Vetran AGE cases were defined as veterans with symptoms of acute gastroenteritis (≥3 loose stools, ≥2 vomiting episodes, or ≥1 episodes of both loose stool and vomiting, within 72 hours) occurring in the previous 14 days, who presented to the emergency department or outpatient clinics (outpatients), or were admitted to the hospital (inpatients). Patients without AGE symptoms in the prior 14 days were enrolled as controls. Demographic data and illness characteristics were collected for enrolled subjects, and stool samples were collected and tested using the FilmArray gastrointestinal panel. Virus-positive stool samples were confirmed by real-time RT-PCR and genotyped after sequencing of conventional PCR products.

Results. From November 1, 2015–November 30, 2016, 130 inpatient and 85 outpatient AGE cases were identified as norovirus-positive. Among these cases, 201 (93 %) were adults and 94 (44 %) were ≥65 years; median duration of illness was 3 days (range, 1–10 days). Norovirus was detected in 12 (9 %) inpatients and 15 (18 %) outpatients; norovirus was not detected in any controls. Incidence of norovirus-associated hospitalization was 15/100,000, and was similar in hospitalized cases aged ≥65 years (14/100,000) and ≥65 years (15/100,000). 49/22 norovirus positive specimens genotyped, 13 (59 %) were GII.4 Sydney.

Conclusion. This robust, active surveillance platform employed screening and enrollment of patients in a VA population meeting a standardized AGE case definition, as defined by symptomatic controls. Data from this study will help highlight the burden of norovirus in adults and importance of a norovirus vaccine.

Disclosures. R. L. Atmar, Takeda Vaccines, Inc.: Research Support, Research support. B. Lopman, HHS/NIAID: Grant Investigator, Grant recipient. B. Vargas, NIAID: Grant Investigator, Grant recipient.

1045. Norovirus, Astrovirus, and Sapovirus in a Tertiary Care Hospital Research Hospital Shelby Daniel-Wyman, BA1; Gary Fable, MT, SM2; Tara Palmore, MD3; Kim Green, PhD4 and D. Rebecca Prevots, PhD, MPH1

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Session 139. Adult Viral Infection
Friday, October 6, 2017: 12:30 PM

Background. Norovirus, astrovirus, and sapovirus are known to cause acute gastroenteritis (AGE) in VA medical centers. In this study, stool specimens were tested for chronic excretion in stool among immunocompromised patients. Because molecular tools for their detection only recently became widely available, the prevalence and chronic excretion of these viruses has not been well defined. We describe features of these viral infections among patients receiving care at the Clinical Center of the National Institutes of Health.

Methods. We identified patients with a positive BioFire FilmArray gastrointestinal panel result for norovirus, astrovirus, or sapovirus from September 15, 2015 through November 30, 2016. We reviewed patient medical records to abstract clinical and microbiologic information. Chronic excretion was defined as more than one positive test for a given virus with more than 30 days between tests.

Results. Of 932 samples tested, 102 (11 %) samples from 48 patients tested positive for norovirus, 15 (2 %) samples from 11 patients tested positive for sapovirus, and 16 (2 %) samples from 7 patients tested positive for astrovirus. One of these patients had a sample that tested positive for both sapovirus and norovirus, and one tested positive for astrovirus and sapovirus at separate points during the study period. Of the 48 norovirus- or astrovirus- or sapovirus-positive patients, 16 (33 %) had evidence of chronic excretion, with a median duration of 189 days (range 72–372). Of these 16, 14 were known or suspected to be immunocompromised, and 4 had hematologic malignancies. Of 7 patients with astrovirus, 1 (14 %) had evidence of chronic excretion (132 days). This patient had a hematologic malignancy and was taking immunosuppressive medications. Nine patients with sapovirus had evidence of chronic excretion. Overall, 20 (31 %) patients additionally tested positive for another gastrointestinal pathogen, most commonly enteropathic E. coli and C. difficile.

Conclusion. Norovirus remains common in this immunocompromised patient population, and both sapovirus and astrovirus are present. Additional follow-up in this and other cohorts with new molecular tools will enable more complete description of the prevalence, excretion duration, and clinical features of infection with these enteric viruses.

This research was supported by the Intramural Research Program of the NIH, NIAID, and the NIH CC.

Disclosures. All authors: No reported disclosures.