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## LETTER TO THE EDITOR

### LARGE GASTROENTERITIS OUTBREAK DUE TO NOROVIRUS GII IN SÃO PAULO, BRAZIL, SUMMER 2010

São Paulo, March 14<sup>th</sup>, 2011

Dear Sir:

In summer 2010 (January-March 2010), the state of São Paulo (SP), located in Southern of Brazil, experienced a large gastroenteritis outbreak due to Norovirus (NoV), a common viral pathogen associated with diarrhea, with marked seasonality during spring and summer<sup>2,4</sup>. The coast line area of the state was the most affected, probably due to the increase of population density during the summer vacations, flooding in conjunction with the waterborne and seafood components of the NoV transmission<sup>3</sup>.

The increase in acute gastroenteritis cases from SP in summer 2010 was detected by Epidemiological Surveillance Center of SP (CVE)<sup>3</sup>, which receives weekly reports from sentinel sites of the Acute Diarrhea Disease Monitoring Program (ADDM). The aim of the ADDM, with a national range, is the early detection of diarrhea outbreaks. Stool samples from patients with acute gastroenteritis are sent to Enteric Diseases Laboratory of the Adolfo Lutz Institute, reference center for rotavirus surveillance, and a member of ADDM, in order to conduct the viral investigation. An epidemiological investigation was conducted by CVE, and a total of 6390 cases were recorded during the period<sup>3</sup>. The Enteric Diseases Laboratory tested a total of 327 stool specimens from the amount.

NoV infection was detected in 32.7% (107/327) using a commercial immunoenzymatic assay (RIDASCREEN® Rotavirus, R-Biopharm AG, Darmstadt, Germany; RIDASCREEN® Norovirus, R-Biopharm AG, Darmstadt, Germany), performed according to the manufacturer's instructions. The median age of the patient was 19.5 years old; in terms of gender 44% were female and 56% male. Thirty three (63.5%; 33/52) specimens positive for NoV displayed GII genogroup specificity by RT-PCR assay using the MON 431, 432, 433 and 434 primer pool<sup>5</sup>. The NoV GII detection agreed with previous works that describe a great incidence and distribution of this genogroup worldwide<sup>7</sup>, including Brazil<sup>1,5</sup>. Two samples were positive for GI (3.8%; 2/52) and one for GI/II (1.9%; 1/52), considered as sporadic cases.

A NoV outbreak with such intensity and extent has never been well documented previously in Brazil history, and illustrates the importance of this viral pathogen as a cause of gastroenteritis during summer season. In addition, Public Health Laboratories, as Adolfo Lutz Institute, which handles with high throughput of samples, can reach a better management through the implementation of NoV screening by the ELISA followed by the RT-PCR<sup>6</sup>.

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## REFERENCES

1. Aragão GC, Oliveira DS, Santos MC, Mascarenhas JDP, Oliveira CS, Linhares AC, *et al.* Molecular characterization of norovirus, sapovirus and astrovirus in children with acute gastroenteritis from Belém, Pará, Brazil. *Rev Pan-Amaz Saude.* 2010;1:149-58.
2. Borges AM, Teixeira JM, Costa PS, Giugliano LG, Fiaccadori FS, Franco R de C, *et al.* Detection of calicivirus from fecal samples from children with acute gastroenteritis in the West Central region of Brazil. *Mem Inst Oswaldo Cruz.* 2006;101:721-4.
3. Eduardo MBP, Suzuki E, Fred J, Marques D, Lima LMA, Silva CMB, *et al.* Investigaç o de surto de diarreia por norovirus no munic pio de Guaruj , SP, Brasil, Dezembro de 2009 a Janeiro de 2010. In: Confer ncia Internacional em Epidemiologia - EPI CVE 2010. S o Paulo, 2010. p. 72. Available from: [http://www.cve.saude.sp.gov.br/html/hidrica/2010/Poster10\\_Surto\\_Guaruja.pdf](http://www.cve.saude.sp.gov.br/html/hidrica/2010/Poster10_Surto_Guaruja.pdf)

4. Georgiadis S, Pilger DA, Pereira F, Cantarelli VV. Avaliação molecular de norovírus em pacientes com gastroenterite aguda. *Rev Soc Bras Med Trop*. 2010;43:277-80.
5. Morillo SG, Cilli A, Carmona RCC, Timenetsky MCST. Identification and molecular characterization of Norovirus in São Paulo State, Brazil. *Braz J Microbiol*. 2008;39:619-22.
6. Morillo SG, Luchs A, Cilli A, Ribeiro CD, Calux SJ, Carmona RCC, *et al*. Norovirus 3<sup>rd</sup> generation kit: an improvement for rapid diagnosis of sporadic gastroenteritis cases and valuable for outbreak detection. *J Virol Methods*. 2011;173:13-6.
7. Siebenga JJ, Lemey P, Kosakovsky Pond SL, Rambaut A, Vennema H, Koopmans M. Phylodynamic reconstruction reveals norovirus GII.4 epidemic expansions and their molecular determinants. *PLoS Pathog*. 2010;6:e1000884.