

LETTER TO THE EDITOR

Outbreak of group A streptococcal pharyngitis at a national sports competition in Montevideo, Uruguay



Brote de faringitis por estreptococo grupo A en una competencia deportiva nacional en Montevideo, Uruguay

Dear Editor,

Group A streptococci (GAS) has been reported as an unusual cause of food-borne outbreaks in industrialized countries, causing pharyngitis and differing from air-borne outbreaks in that they begin abruptly and have low complications rate¹.

In November 2013, a large GAS outbreak was reported among 1702 young participants (15–20 years old) from all over the country who came to Montevideo, the capital city of Uruguay, for a sports competition (Fig. 1).

The competition started November 6th and 2 days later many competitors became ill and needed medical assistance. At least 374 patients with tonsillo-pharyngitis were identified (attack rate 21.97%), most between November 8th and 9th. The affected competitors were staying together at the same facility but they participated in different sports, were from different geographic origins and slept in different rooms.

The epidemic curve suggested an outbreak by a common source, probably food-borne. The meal was provided by a catering service to all participants, except to those living in Montevideo. The epidemiological investigation showed that procedures for preparation, storing, transporting and handling of the dishes were not always according to regulations. One of six food handlers in place tested positive for rapid GAS antigen detection test. Unfortunately, the catering service was not investigated: no food samples were obtained and their food makers were not studied. Interestingly, none of the participants living in Montevideo became ill.

All symptomatic patients were treated with intramuscular penicillin and 2 were hospitalized for febrile seizures and bronchospasm respectively.

Most cases were only clinically diagnosed, thus only 20 GAS throat isolates from patients living in 10 different cities were available for characterization at our institution, the National Reference Laboratory (Fig. 1).

<http://dx.doi.org/10.1016/j.ram.2016.11.003>

0325-7541/© 2017 Asociación Argentina de Microbiología. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

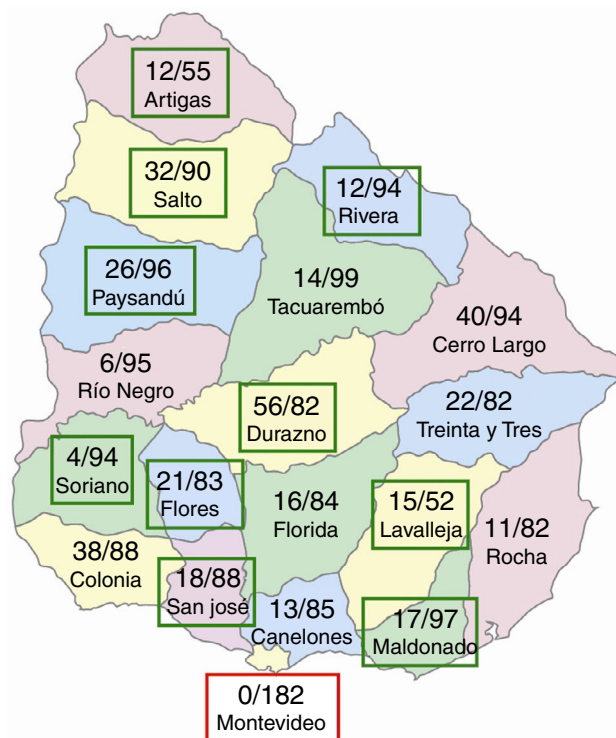


Figure 1 Geographical distribution of clinical cases of tonsillo-pharyngitis/participants at the national competition, by district. The green squares depict districts where GAS isolates were obtained. The red square points at the capital city where no isolates or cases were identified.

Penicillin, erythromycin, clindamycin, tetracycline, clo-rampenicol and levofloxacin were tested using disk diffusion following the procedures of Clinical and Laboratory Standards Institute. The *emm* type was determined by sequencing the variable 5'-end of the *emm* gene, according to the Centers for Disease Control and Prevention.

PCR was used to detect *speA*, *speC*, *speB* and *ssa* genes as described previously⁴. PFGE was used to confirm the GAS similarity² and two random selected isolates were studied by MLST⁵.

All GAS isolates were susceptible to the antibiotics tested. Indistinguishable PFGE profiles were obtained and only *speB* was identified in all isolates.

The 20 GAS isolates corresponded to *emm* type 68.3, a very rare serotype scarcely cited in literature. This *emm* type was not identified in a previous study of GAS invasive and non-invasive infections, among 135 isolates collected between 1999 and 2012 in Uruguay³. To our knowledge, *emm*68.3 has never been associated with food-borne streptococcal sore throat outbreaks before.

The isolates tested for MLST were ST247, which is represented by only 4 isolates in the MLST database⁵.

In summary, for the first time in Uruguay, a large outbreak of tonsillo-pharyngitis was recorded. This outbreak was caused by a single clone of group A streptococci *emm*68.3/ST247. Isolates from food were not available for comparison, but the epidemiological features suggest that food could be the source of infection.

References

1. Asteberg I, Andersson Y, Dotevall L, Ericsson M, Darenberg J, Henriques-Norsdmark B, Soderstrom A. A food-borne streptococcal sore throat outbreak in a small community. *Scand J Infect Dis*. 2006;38:988–94.
2. Carrico JA, Silva-Costa C, Melo Cristino J, Pinto FR, de Lencastre H, Almeida JS, Ramirez M. Illustration of a common framework for relating multiple typing methods by application to macrolide-resistant *Streptococcus pyogenes*. *J Clin Microbiol*. 2006;44:2524–32.
3. García Gabarrot G. Identificación de linajes patogénicos en poblaciones naturales de *Streptococcus pyogenes*. Tesis de Doctorado en Microbiología 2012. Programa de Desarrollo de las Ciencias Básicas-Universidad de la República, Montevideo-Uruguay.
4. Luca-Harari B, Ekelund K, van der Linden M, Staum-Kaltoft M, Hammerum AM, Clinical Jasir A. Epidemiological aspects of invasive *Streptococcus pyogenes* infections in Denmark during 2003 and 2004. *J Clin Microbiol*. 2008;46:79–86.
5. mlst.net (Internet). London: Imperial College (last access August 17th, 2016). Available at: <http://spyogenes.mlst.net/>

Gabriela García Gabarrot^{a,*}, Eugenia Torres Debat^b, Grisel Rodríguez^c, Mónica Castro^d, Gustavo Gagliano^d, Teresa Camou^a

^a Departamento de Laboratorios, Ministerio de Salud, Montevideo, Uruguay

^b CASMU, Montevideo, Uruguay

^c Sanatorio Americano, Montevideo, Uruguay

^d Departamento de Vigilancia en Salud, Ministerio de Salud, Montevideo, Uruguay

* Corresponding author.

E-mail address: ggarcia@msp.gub.uy (G.G. Gabarrot).