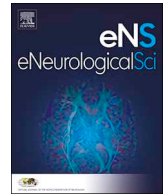




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## Letter to the Editor

## Outbreak of Guillain-Barre syndrome in Peru



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## To the Editor

Guillain-Barre syndrome (GBS) is the most common and most severe acute paralytic neuropathy with an annual incidence of 0.5 to 2 per 100, 000 inhabitants. It can affect people of all ages, but it is more frequent in adults and in males [1,2]. The specific cause of GBS is still unknown; however, its development is associated with previous respiratory or gastrointestinal infections or another pathology in which the immune system attacks the peripheral nerves [2]. GBS has no cure, but an adequate treatment can improve symptoms and shorten its duration (more than 90% of patients can recover completely one year after the onset of the disease); whereas few cases are fatal (mortality rate of 3–7%) [2,3].

In Peru, GBS cases are not rare, with an annual report of 300 to 500 cases at the hospital level [4]. By the beginning of May 2018, at least 100 cases had already been registered throughout the country; however, the highlight was that 15 cases of the total were reported came from Trujillo (a city located in northern Peru) in the last 4 weeks. From that date, the GBS spread rapidly, so the Ministry of Health declared this country in a state of emergency [5].

The main clinical symptoms reported were a pain in the extremities; symmetrical, progressive and ascending weakness until reaching the point of not being able to walk or hold something with the hands; and in some cases, muscle paralysis that could affect even the respiratory muscles; all these symptoms being classic clinical features of GBS [2]. The diagnosis was based mainly on the results of the clinical examination, lumbar puncture, nerve conduction studies, magnetic resonance imaging, and serological tests; following the Brighton criteria [6]. In addition, the treatment consisted of general medical care and immunomodulatory treatments (intravenous human immunoglobulin or plasmapheresis), applying the international guidelines [7–9].

It was found that the main cause of the sudden outbreak of GBS in Peru was an enterovirus, which is transmitted mainly via the fecal-oral route, in addition to other via such as the respiratory route and through the conjunctival fluid [10]. For this reason, it was recommended to the entire population that they carry out an adequate hygiene process of their hands before eating or preparing their food, wash fruits and vegetables before consuming them, avoid contact with people with respiratory infections, use repellent (to avoid neurological complications

caused by the Zika virus), and go to the nearest health center if they show signs of muscle weakness that have lasted at least a week [4]. At the end of August 2018, the state of emergency was closed due to the fact that no new cases were reported until that date. A total of 174 cases were registered since the outbreak of GBS, of which 52 cases came from Lima (capital of Peru) [5].

With the aim of preventing a new epidemic outbreak of GBS in Peru, as well as other diseases that can be easily acquired through the fecal-oral or respiratory route, the health system must continue to follow a series of actions such as training workers health for an adequate recognition and early management of diseases, providing informative talks to the population to attend promptly to a health center in the presence of persistent symptoms and avoid self-medication, as well as promoting adequate hygiene measures and healthy eating habits.

## Disclosure statement

The authors declare that there are no potential conflicts of interest with this publication.

## References

- [1] H.J. Willison, B.C. Jacobs, P.A. van Doorn, Guillain-Barré syndrome, *Lancet* 388 (10045) (Aug 13, 2016) 717–727.
- [2] S. Esposito, M.R. Longo, Guillain-Barré syndrome, *Autoimmun. Rev.* 16 (1) (Jan, 2017) 96–101.
- [3] I. González-Suárez, I. Sanz-Gallego, F.J. Rodríguez de Rivera, et al., Guillain-Barré syndrome: natural history and prognostic factors: a retrospective review of 106 cases, *BMC Neurol.* 13 (Jul 22, 2013) 95.
- [4] Instituto de Evaluación de Tecnologías en Salud e Investigación, Reporte de evidencias N° 1: Revisión Rápida sobre el Síndrome de Guillain-Barré [Internet], Available from: [http://blog.pucp.edu.pe/blog/sst/wp-content/uploads/sites/19/2018/06/rep\\_evid\\_1\\_2018\\_rev\\_rap\\_sind\\_guillain\\_barre-final.pdf](http://blog.pucp.edu.pe/blog/sst/wp-content/uploads/sites/19/2018/06/rep_evid_1_2018_rev_rap_sind_guillain_barre-final.pdf).
- [5] Centro de Operaciones de Emergencia Nacional, Reporte complementario n° 619 - 22/08/2018/COEN - INDECI/14:30 HORAS (Reporte N° 09). Casos de Síndrome de Guillain Barré en los departamentos del Perú [Internet], Available from: <https://www.indeci.gob.pe/objetos/alerta/MzAyMw==/20180822143421.pdf>.
- [6] J.J. Sejvar, K.S. Kohl, J. Gidudu, et al., Guillain-Barré syndrome and Fisher syndrome: case definitions and guidelines for collection, analysis, and presentation of immunization safety data, *Vaccine* 29 (3) (Jan 10, 2011) 599–612.
- [7] R.A.C. Hughes, Wijdicks EFM, R. Barohn, et al., Practice parameter: immunotherapy for Guillain-Barré syndrome: report of the Quality Standards Subcommittee of the American Academy of Neurology, *Neurology* 61 (6) (Sep 23, 2003) 736–740.

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- [8] R.A.C. Hughes, E.F.M. Wijdicks, E. Benson, et al., Supportive care for patients with Guillain-Barré syndrome, *Arch. Neurol.* 62 (8) (Aug, 2005) 1194–1198.
- [9] I. Elovaara, S. Apostolski, P. van Doorn, et al., EFNS guidelines for the use of intravenous immunoglobulin in treatment of neurological diseases: EFNS task force on the use of intravenous immunoglobulin in treatment of neurological diseases, *Eur. J. Neurol.* 15 (9) (Sep, 2008) 893–908.
- [10] N. Nathanson, O.M. Kew, From emergence to eradication: the epidemiology of poliomyelitis deconstructed, *Am. J. Epidemiol.* 172 (11) (Dec 1, 2010) 1213–1229.

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