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J. Marta-Enguita\*, I. Rubio-Baines, I. Gastón-Zubimendi  
*Servicio de Neurología, Complejo Hospitalario de Navarra, Pamplona, Navarra, Spain*

\*Corresponding author.

E-mail address: [j.marta.enguita@navarra.es](mailto:j.marta.enguita@navarra.es)  
 (J. Marta-Enguita).

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## A neurology department at a tertiary-level hospital during the COVID-19 pandemic<sup>☆</sup>



### Un servicio de neurología de un hospital terciario en la pandemia COVID-19

*Dear Editor:*

In the current healthcare context, we believe it may be beneficial to share information on the adaptations implemented in the working dynamics of the Neurology Department at Hospital General Universitario Gregorio Marañón (Madrid, Spain) in response to the COVID-19 pandemic.

After the first patients with COVID-19 were admitted to our centre in late February 2020, we suspended clinical training sessions to respect social distancing. Essential clinical information on hospitalised patients was communicated in sessions with very few attendees: the incoming and outgoing on-call teams, ward managers, and the head of the department. From that time, all the department's internal communication was made by email or telephone. COVID-19 training sessions were provided through online platforms.

In early March, there was an exponential increase in patients attended at the emergency department and hospitalised due to COVID-19; the magnitude of demand left the first-line departments dealing with the pandemic (the emergency, pulmonology, infectious diseases, and internal medicine departments and the intensive care unit) at the limit of their capacity. The neurology department had to be adapted to contribute to this first line of response against the pandemic while simultaneously guaranteeing the best possible care for neurological patients.

The specific targets for this adaptation were:

- 1) To guarantee the neurological care of patients with urgent conditions.
- 2) To provide the staff needed in the response against COVID-19, whenever this was required.
- 3) To maintain contact with patients who would normally be seen in consultations at the hospital or at other specialty

centres but were unable to attend these consultations given the current circumstances.

Pursuant to these objectives, the following measures were implemented:

- 1) Specific neurology on-call shifts and inpatient wards, as well as the stroke unit, were maintained. Code stroke protocols were maintained, including neurointerventional procedures. Replacement of generators from nerve stimulators was also continued. Scheduled hospitalisations were suspended.
- 2) The neurology in-hospital consultation team was maintained.
- 3) Telephone consultations were implemented to replace conventional in-person consultations. Electronic prescribing was implemented. Patients with implanted nerve stimulators or drug infusion pumps received special follow-up.
- 4) Essential treatments continued to be administered at the neurology day hospital. Botulinum toxin administration was temporarily suspended. Immunosuppressive treatments were postponed in cases where the patient's situation allowed for this.
- 5) Contact was made almost on a daily basis with emergency department and inpatient ward staff responsible for patients with COVID-19 in order to determine the number of additional physicians needed.

From the second week of March, neurologists gradually began to join the team caring for patients with COVID-19 (14 neurologists are currently in this team), frequently leading to reallocation of duties. Furthermore, the number of neurological patients attended at the emergency department and hospitalised decreased, enabling us to decrease the number of neurologists in the inpatient ward, where only patients without COVID-19 are being admitted.

Patients with COVID-19 presenting neurological disorders are admitted to specific COVID-19 wards (currently, the hospital is working almost exclusively in the care of patients with COVID-19) and are attended jointly by physicians from these wards and the neurology in-hospital consultation team, except if the ward team already includes a neurologist.

The structured "withdrawal" from care activity in this dynamic situation involved the participation of all staff and residents in the neurology department, who worked with great speed, effectiveness, dedication, and commitment. Clinical research has temporarily been suspended with the exception of special cases. Undergraduate teaching, which was suspended in February, has continued through the Vir-

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tual Campus of the Universidad Complutense de Madrid. These measures are similar to those implemented in other centres, even under different healthcare systems.<sup>1,2</sup>

In early April, we began to assess how neurological care can return to a situation of normalcy. This transition will probably have to be progressive and include teleconsultations (we are implementing a secure videoconferencing system to improve interaction with patients) as well as conventional in-person consultations. It will be necessary to reintroduce the suspended treatments, avoiding overcrowding of patients and ensuring proper protection, and to return to normal hospitalisation procedures.

We also face the challenge of identifying, understanding, and treating the increasingly frequent neurological manifestations of COVID-19, and minimising the impact of the pandemic on patients with neurological diseases.

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F. Grandas\*, J.M. García Domínguez, F. Díaz Otero, on behalf of the Neurology Service at Hospital General Universitario Gregorio Marañón

*Servicio de Neurología, Hospital General Universitario Gregorio Marañón, Madrid, Spain*

\* Corresponding author.

*E-mail address:* [francisco.grandas@salud.madrid.org](mailto:francisco.grandas@salud.madrid.org) (F. Grandas).

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## Guillain-Barré syndrome associated with SARS-CoV-2 infection<sup>☆</sup>



## Síndrome de Guillain-Barré asociado a infección por SARS-CoV-2

*Dear Editor:*

COVID-19 is an infectious disease caused by a novel coronavirus, SARS-CoV-2. The virus was first detected in Wuhan, China, in December 2019, and subsequently spread across the world.<sup>1</sup> There is extensive evidence that SARS-CoV-2 infection causes respiratory alterations; however, the associated neurological manifestations are less well-known.<sup>2</sup> We present a case of Guillain-Barré syndrome (GBS) associated with COVID-19.

Our patient is a 43-year-old man who consulted due to symmetrical weakness involving all 4 limbs; weakness progressively increased in severity, leading to inability to walk. He also presented sensory alterations in distal regions of all 4 limbs. Ten days previously he had experienced a self-limited episode of diarrhoea, followed by symptoms of upper respiratory tract infection.

The neurological examination revealed weakness in all 4 limbs, with 3/5 muscle strength proximally and 4/5 distally, and global areflexia. Chest radiography revealed alterations suggestive of incipient pneumonia secondary to COVID-19 (Fig. 1). The PCR test for SARS-CoV-2 returned positive results. An EMG/nerve conduction study revealed increased distal motor latency and decreased sensory nerve conduc-



**Figure 1** Chest radiography (posteroanterior view) revealing ground-glass opacity in the right middle lobe; in the current epidemiological situation, these findings suggest incipient pneumonia secondary to SARS-CoV-2 infection.

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