

yet to be determined whether COVID-19 promotes these infections. Nonetheless, CNS infection by SARS-CoV-2 represents a challenge for neurologists, and future studies should address the spread of the virus in the acute stage, as well as possible sequelae.<sup>8</sup>

Finally, the COVID-19 pandemic has forced neurology departments to implement significant structural changes,<sup>4,5</sup> such as the promotion of remote patient assessment.<sup>15</sup> However, neurological infection requires in-person evaluation; therefore, suspicion and detection of these conditions are essential, especially in such circumstances as the current pandemic, in which we may wrongly assume that all febrile syndromes are COVID-19 until this is disproved.

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## The epilepsy unit during the COVID-19 epidemic: the role of telemedicine and the effects of confinement on patients with epilepsy<sup>☆</sup>



### Consulta de epilepsia durante la pandemia de COVID-19: papel de la telemedicina y efectos del confinamiento en pacientes epilépticos

Unlike in other natural disasters, patients have avoided visiting healthcare facilities during the COVID-19 pandemic

as these settings have become a major focus of infection. The same phenomenon was observed during the SARS-CoV and MERS-CoV outbreaks in 2003 and 2012, respectively.<sup>1</sup> This, combined with the risk of exacerbation of neurological diseases associated with SARS-CoV-2 infection,<sup>2,3</sup> results in more pronounced worsening of chronic diseases. In this scenario, telemedicine represents an extremely useful tool.<sup>4,5</sup> In the case of epilepsy, and given the characteristics of these consultations, which are mainly based on clinical history and assessment of symptoms, telemedicine has been shown to be effective for follow-up of these patients.<sup>6</sup> In a recent interview on the subject, Dr Jacqueline French (NYU Langone Medical Center, New York) argued that assessment of epileptic patients can be successfully completed in remote consultations in 99% of cases.<sup>7</sup>

However, the current scenario has increased the risk of treatment discontinuation among patients with epilepsy. To date, only one study has been published on the topic in the context of confinement due to coronavirus disease. In 2005, Shung-Lon et al.<sup>1</sup> published their observations on the impact

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**Table 1** Epidemiological characteristics and seizure frequency in our sample before and during COVID-19 confinement.

		Worsening	No change	Improvement
	<i>n</i>	3	28	18
	Age (years), mean (SD)	51.7 (24.6)	56.2 (22.8)	3.6 (19.8)
Sex, <i>n</i> (%)	<i>Men</i>	2 (66.7%)	12 (42.9%)	12 (66.7%)
	<i>Women</i>	1 (33.3%)	16 (57.1%)	6 (33.3%)
Seizure type, <i>n</i> (%)	<i>Focal</i>	2 (66.7%)	17 (60.7%)	11 (61.1%)
	<i>Generalised</i>	1 (33.3%)	11 (39.3%)	7 (38.9%)
Epilepsy aetiology, <i>n</i> (%)	<i>Structural</i>	1 (33.3%)	16 (57.1%)	10 (55.6%)
	<i>Genetic</i>	2 (66.7%)	12 (42.9%)	8 (44.4%)
No. monthly seizures before confinement, mean (SD)		13.4 (19.1)	1.1 (5.7)	4.3 (11.7)
No. monthly seizures during confinement, mean (SD)		20.3 (22.5)	1.1 (5.7)	2.3 (7.1)
No. AEDs, mean (SD)		3.3 (1.5)	1.2 (0.4)	2.1 (1.1)

AED: antiepileptic drug; SD: standard deviation.

of confinement on epilepsy drug withdrawal in Taiwan during the 2003 SARS outbreak. The study included 227 patients who were evaluated via telephone consultation between 16 May and 2 June 2003. Many patients could not be contacted, although the exact number is not disclosed. Forty-nine discontinued treatment without consulting their physicians; 28 of this group presented seizures. Interestingly, more patients remained seizure-free during confinement than in the 6 months prior (125 vs 117;  $P = .05$ ).

The purpose of this study was to evaluate follow-up of patients with epilepsy during confinement and to compare it against the previous 7 months.

We contacted a total of 62 patients with epilepsy by telephone between confinement days 6 and 30 in Spain (20 March to 13 April 2020). Thirteen of these were excluded from our sample, for the following reasons: surgery or severe intercurrent processes (3 cases), epilepsy history of less than 6 months' duration prior to confinement (2), seizure frequency of  $\geq 7$  per day (2), hospitalisation due to COVID-19 (1), death (1), factitious disorder (1), change of hospital (1), inability to contact the patient (1), and hospitalisation during confinement (1). A total of 49 individuals were finally included in our analysis.

Mean epilepsy duration in our sample was 20.7 months (range, 7-64). Seizure frequency was significantly lower during confinement than in the previous 7 months ( $P = .004$ ;  $t$  test). Patients were classified into 3 groups according to whether their condition had worsened, improved, or remained stable (in terms of the number of seizures per month). The chi-square test for each dichotomous variable found no significant differences associated with sex ( $P = .25$ ), seizure type ( $P = .98$ ), or aetiology of epilepsy ( $P = .73$ ). Improvement during confinement was more frequent among patients receiving 1-2 antiepileptic drugs than among those taking more than 2 drugs ( $P < .003$ ) (Table 1).

Unlike Shung-Lun et al.,<sup>1</sup> we were able to contact nearly all patients (only one could not be reached), which may explain why none of our patients discontinued treatment. This may also have been favoured by the use of electronic prescribing, which allows patients to collect their medications directly from the pharmacy.

As in the study by Shung-Lun et al.,<sup>1</sup> our patients presented fewer seizures during confinement. This finding should be interpreted with caution, given that our study gathered data from patients who had been in confinement for a maximum of one month.

Another limitation of our study is the lack of test data; telephone consultations are useful in the short and medium term, but insufficient in the long term. In conclusion, telephone consultations provide a useful tool for the management of patients with epilepsy in the context of confinement due to COVID-19, since they allow physicians to follow up all patients, which in turn prevents treatment discontinuation. If confinement is not extended, epileptic patients may present a decrease in seizure frequency during this period.

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## Neurological symptoms as the initial manifestation of IgG4-related disease<sup>☆</sup>



### Manifestaciones neurológicas como presentación inicial de la enfermedad relacionada con IgG4

Dear Editor:

The term IgG4-related disease (IgG4-RD) encompasses a heterogeneous group of systemic diseases characterised by tumefactive lesions in the affected organs, with lymphoplasmacytic infiltrate rich in IgG4-positive plasma cells distributed in a pattern of storiform fibrosis.<sup>1</sup> Considering the different names given to this entity throughout history, its prevalence and incidence remain unknown. It generally manifests in the sixth or seventh decade of life and predominantly affects men (60%-80%).<sup>2</sup> The pathophysiological mechanism remains unknown, although the most relevant theories propose an autoimmune or allergic phenomenon, with T-helper 2 cells reacting disproportionately to an as yet unidentified antigen.<sup>3</sup> Clinical manifestations and forms of presentation are varied and may involve multiple organs; differential diagnosis includes various neoplastic, infectious, and inflammatory processes (Table 1).<sup>4</sup> The central nervous system (CNS) is rarely affected, although certain neurological syndromes are closely associated with IgG4-RD, such as hypertrophic pachymeningitis (HP) and hypophysitis.<sup>5</sup> We present 2 cases of probable IgG4-RD with neurological symptoms as the initial manifestation. The objective of our study is to analyse the different forms of neurological presentation of IgG4-RD, with the aim of increasing neurologists' clinical suspicion in order to promptly establish effective treatment.

### Patient 1

Our first patient was a 77-year-old man who was attended due to 6-year history of diplopia associated with chills and nocturnal sweating. The physical examination revealed right supraorbital tumour with proptosis and limited right ocular motility, bilateral anacusis, and right peripheral facial nerve palsy. A brain magnetic resonance imaging (MRI) scan showed pachymeningeal enhancement, predominantly located in the infratentorial region, and a tumour affecting the right lacrimal gland (Fig. 1A-C). Laboratory tests revealed an erythrocyte sedimentation rate of 60 mm/h and C-reactive protein level of 34.21 mg/L. Serum total IgG and IgG subtype 4 levels were normal. Cerebrospinal fluid analysis revealed high protein levels, with no microbial pathogens or neoplastic cells detected. An abdominal computed tomography (CT) scan showed enlarged kidneys due to infiltrative lesions (Fig. 1D). An anatomical pathology study of a renal biopsy specimen showed extensive lymphoplasmacytic infiltrate and positive immunostaining for CD138 and IgG4. We interpreted the case as probable IgG4-RD and started oral corticosteroid treatment and azathioprine, with no new clinical manifestations presenting. Laboratory results for inflammatory parameters normalised and the pachymeningeal enhancement resolved at 6 months of follow-up. However, bilateral anacusis remained as a sequela.

### Patient 2

Our second patient was a 58-year-old man who was attended due to 4-month history of headache, blurred vision, and dyschromatopsia. The physical examination revealed visual acuity of 20/70 in both eyes. A brain MRI scan revealed diffuse pituitary enlargement with contrast enhancement, associated with pachymeningeal enhancement in both frontal lobes and near the brainstem (Fig. 1E and F). Laboratory tests revealed an erythrocyte sedimentation rate of 70 mm/h and C-reactive protein level of 44.4 mg/L associated with panhypopituitarism, with normal serum IgG and IgG subtype 4 levels. Cerebrospinal fluid analysis revealed high protein levels, with no infectious or neoplastic signs. Findings from an abdominal CT scan

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