

Coronaviruses and Multiple Sclerosis

To the Editor.—Madden et al (ARCHIVES 1981;38:209-210) presented an interesting and careful study of antibodies to coronaviruses in the sera of patients with multiple sclerosis (MS) and controls. However, for a number of reasons we do not agree that their data, based entirely on a serologic survey, warrants the conclusion that "coronaviruses do not appear to be associated with the cause of MS."

First, as the authors pointed out, coronaviruses are ubiquitous in man. This fact accounts for the high incidence of seropositivity in controls and may make it difficult to identify patients with disease, ie, nervous system involvement, against the background of general seropositivity. This is the case, for example, with conditions such as progressive multifocal leukoencephalopathy¹ in which both affected patient and control populations have a high percentage of persons with antibody to the relevant virus, thus making diagnosis on serologic grounds impossible.

Second, analysis of serum alone may not reflect important and potentially causatively relevant immunologic processes occurring within the CNS, such as local production of antiviral antibody, as shown by Norrby et al² in MS.

Third, in experimental coronavirus disease of mice, published data from our laboratories have shown that serum antiviral antibody does not correlate well with the presence or severity of viral CNS involvement by the virus.³ In some instances, mice with florid demyelination have been seronegative. We have developed a sensitive radioimmunoassay for JHM coronavirus antibody and are currently looking at both serum and CSF of affected mice.

Fourth, there are many coronaviruses, and there are substantial antigenic differences between different groups.⁴ Many of these agents have been discovered only recently and are imperfectly characterized. As Madden et al stated, the viruses they employed may not be sufficiently serorelated to the strains isolated from MS tissue by Burks et al⁵ to make a relevant comparison. Gerdes et al⁶ recently addressed these questions in part.

Therefore, in view of the foregoing considerations, it seems appropriate to view the cause of MS, with regard to both coronaviruses and other viral and nonviral agents, as an open question at this stage of our knowledge. In fact, the high degree of seropositivity to coronaviruses noted in patients with MS and in control populations, as well as the propensity of nonhuman coronaviruses to establish persistent and latent infections, should, in our view, identify this class of viruses as one of those to which particular attention should be given.

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Clonazepam Therapy in a Case of Primary Reading Epilepsy

To the Editor.—Primary reading epilepsy (PRE) is a form of reflex epilepsy that is considered hereditary,¹ and whose effective treatment in three cases with clonazepam^{2,4} and in one case with valproate sodium⁵ has been described. We studied a man with PRE whose attacks were controlled with clonazepam. His 4-year-old son had myoclonic epilepsy that was controlled with valproate sodium.

Report of a Case.—A 32-year-old man, first seen seven years earlier, had suffered

three generalized convulsive seizures, while reading, since age 18 years. After these, and always when reading texts that required concentrated attention, he felt several throat spasms that reached tonic protrusion of the jaw, and that forced him to stop reading for fear of suffering a new generalized attack; this happens daily, aggravated by excitement or loss of sleep. He always pronounces words to himself in reading. The attacks occur sometimes during an excited and heated argument, and he becomes unable to say what he wishes. There was no improvement with 200 mg/day of phenytoin and 100 mg/day of phenobarbital.

The patient had been asphyxiated at birth, but had no obvious neurologic deficits. On several EEGs, the background rhythm was normal, with brief bursts of bilateral, predominantly frontotemporal, sharp theta discharges, occasionally coinciding with spasms of the throat that appeared on reading; there was no loss of consciousness and clonic jerks of the jaw not observed. Treatment with 1 mg of clonazepam three times a day was initiated, and in the seven months since then he has been free of symptoms.

A son, aged 4 years, had daily generalized myoclonic jerks. The EEG displayed paroxysmal spike and wave discharges during hyperventilation. The child is asymptomatic while receiving valproate sodium. No other relatives are known to suffer from epilepsy.

Comment.—The experience with our patient substantiates the effective critical control reported with clonazepam in the three previous reports of PRE. In all four, one is impressed by the myoclonic nature of the "jolt-like" feeling in the tongue, "thumping sensation," "spasms of the throat," or clear jaw myoclonus; our patient's son also has generalized myoclonic seizures. Clonazepam has been reported to be effective in myoclonus,⁶ perhaps because it enhances polysynaptic inhibitory activity throughout the nervous system; it is this fact that led to its use with PRE.

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