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# Bornavirus Associated with Fatal Human Encephalitis

**TO THE EDITOR:** Hoffmann et al. (July 9 issue)[1] describe three patients with a new form of encephalitis caused by variegated squirrel 1 bornavirus (VSBV-1). This finding is interesting, since the cause of up to 37% of cases of encephalitis remains undetermined, despite extensive infectious, autoimmune, and paraneoplastic testing.[2] I was surprised by the fact that Patient 1 had a highly positive anti-Yo (Purkinje cell) autoantibody in the cerebrospinal fluid. Anti-Yo autoantibodies are well-characterized onconeural antibodies (together with anti-Hu, anti-CV2, anti-Ri, anti-Ma2, and amphiphysin), which are usually associated with a paraneoplastic form of cerebellar degeneration.[3] Any patient who presents with a neurologic syndrome (classic or not) and harbors well-characterized onconeural antibodies, even in the absence of a tumor, fulfills the diagnostic criteria for a definite paraneoplastic neurologic syndrome.[3] The authors ruled out the presence of cancer using full-body computed tomography. One intriguing explanation could be that the infection triggered the antibody synthesis through the release of antigens by viral neuronal lysis or molecular mimicry, as proposed for autoimmune neurologic relapses after herpes simplex encephalitis.[4]

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No potential conflict of interest relevant to this letter was reported.

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**THE AUTHORS REPLY:** In Patient 1 in our report, anti-Yo antibodies were detected in high titers in cerebrospinal fluid but not in serum. According to proposed diagnostic criteria[1] for paraneoplastic neurologic syndromes, such a syndrome would indeed be diagnosed in this patient. We agree that the anti-Yo antibodies might have been induced by the viral infection. The cytoplasmic Yo antigen, which is found in several parts of the brain,[2] might become exposed to the immune system after neuron disintegration during infection. This possibility is underlined by the absence of nonpathogenic anti-Yo antibodies in the patient's serum, contrasting with their presence in serum samples obtained from patients with paraneoplastic neurologic syndromes.[1] Thus, in our patient, we might rather call the epiphenomenon of anti-Yo antibodies parainfectious and not paraneoplastic. It was reported that cancer was not found in 2% of patients with anti-Yo antibodies[1]; a subgroup of these cases might be virus-induced. It was suggested that in patients with herpes simplex encephalitis, molecular mimicry or antigen release by viral neuronal lysis and inflammation might induce pathogenic antibodies against neuronal surface *N*-methyl-D-aspartate receptor (NMDAR).[3,4] Such antibodies probably led to cell-surface or synaptic autoimmunity with clinical symptoms.

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Since publication of their article, the authors report no further potential conflict of interest.

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# Chagas' Disease

**TO THE EDITOR:** We would like to address some key points related to the article by Bern (July 30 issue)[1] on the basis of our everyday experience in clinical and surgical practice. Bern did not mention precordial chest pain in the clinical picture of patients with chronic Chagas' disease. Precordial chest pain affects up to 15% of patients with this condition and may simulate acute coronary syndromes in the absence of obstructive coronary artery disease.[2] Abnormalities in left ventricular wall motion have prognostic value in patients with chronic Chagas' disease because these abnormalities are a marker of disease progression to chronic cardiomyopathy.[3] Fever is not routinely observed in heart-transplant recipients in whom there has been reactivation of *Trypanosoma cruzi* infection. Rather, the diagnosis of Chagas' disease should be suspected in patients with symptoms resembling those of acute cellular rejection despite the administration of proper immunosuppressive therapy, since the parasite is seldom seen in myocardial tissue.[4] Amiodarone increases the risk of death among patients with chronic Chagas' disease and chronic heart failure. Consequently, this drug should only be given to patients with symptomatic, life-threatening ventricular arrhythmias.[5]

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**TO THE EDITOR:** Bern points out the lack of data available for mapping the estimated prevalence of Chagas' disease at the subnational level. Nevertheless, Argentina is a large country that includes diverse climatic regions, and this fact limits the circulation of the vector for *T. cruzi*. Therefore, the provinces of Chaco, Catamarca, Formosa, Santiago del Estero, San Juan, and Mendoza had a reemergence of vectorial transmission, whereas there was only a minor risk of vectorial transmission in the rural areas of Córdoba, Corrientes, La Rioja, Salta, and Tucumán.[1] The conditions that increase the risk of contracting the disease are the presence of straw houses, earthen floors, and tropical weather. For these reasons, an area in Chaco known as Monte Impenetrable, a forest with an area of 3000 km$^2$, has the highest rate of vectorial circulation in Argentina. However, the provinces of San Luis, Misiones, and Santa Fé managed to break vector circulation by implementing prevention programs. In the remaining provinces, such as Buenos Aires, all the new cases correspond with the vertical transmission of Chagas' disease, which is particularly influenced by national and international migrations.[2]

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