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Author(s)	OGINO, Michiko
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In this study, the serial changes of intracranial ultrasonographic appearance and the Doppler spectrum of intracranial blood flow were investigated in neonatal dogs. It was suggested that intracranial USG in neonatal dogs provides useful

information on various brain abnormalities. Although further study is needed, pulsed-wave Doppler spectral analysis appeared to be worthy of clinical application.

Study on development of serodiagnosis for Borna disease virus infection using recombinant antigen

Michiko Ogino

*Laboratory of Public Health,  
Department of Environmental Veterinary Sciences,  
School of Veterinary Medicine,  
Hokkaido University, Sapporo 060, Japan*

Borna disease virus (BDV) is a pathogen which causes Borna disease in sheep and horses in Central Europe. Recently, a seroepidemiological survey of BDV infection suggested that this virus is distributed in wide areas among different species of animals. However, there is no standard method for serodiagnosis of BDV infection. Thus, in this study, two BDV proteins, p40 and p24, synthesized by means of a baculovirus expression system were used to develop methods of serodiagnosis for BDV infection in *Rattus norvegicus* in the field and in horses.

1. The antigenicity of the two recombinant BDV proteins, rBACp40 and rBACp24, was verified by using rabbit antisera raised against each of the two BDV proteins synthesized in *E. coli* as GST fusion proteins.

2. IFA antibodies to rBACp40 and rBACp24 were detected in sera from rats infected with BDV. In WB analysis, the infected rat sera showed a specific reaction to rBACp40 but not to rBACp24. These results suggest that rBACp40 is better than rBACp24 for serodiagnosis assay.

3. Sera from 30 field rats were examined by ELISA and WB with rBACp40. A specific antibody to BDV was not detected in these assays.

4. Horse sera from Hokkaido were examined by IFA, PG-IFA, and WB. Of 80 sera, 21 (26.2%) and 17 (21.3%) were positive in IFA and PG-IFA, respectively, when MDCK/BDV was used as an antigen. However, none of 21 sera randomly selected from the 80 sera were positive in WB analysis with rBACp40.