

History: April, 2016

Porcine. CNS signs were reported in 11-week-old pigs. Clinical signs included decrease of water and feed consumption, compromised ambulation with ataxia, incoordination, mental dullness, paresis, paralysis and decreased response to environmental stimuli.

Histopathology:

Cerebellum, brain stem and spinal cord: Virchow-Robin spaces are often infiltrated and expanded by high numbers of lymphocytes, plasma cells and macrophages. Additionally, there are multifocal variably-sized areas of gliosis and necrosis. Necrotic areas are often composed of moderate amounts of cellular and karyorrhectic debris, neutrophils, lymphocytes and red blood cells. Neurons within affected areas are occasionally hypereosinophilic and shrunken (necrosis); necrotic neurons are surrounded by reactive astrocytes (satellitosis). Axons are often degenerate (spheroids); occasionally axon sheets are filled with "gitter" cells.

Please see images of histologic lesions below:

Figure 1.

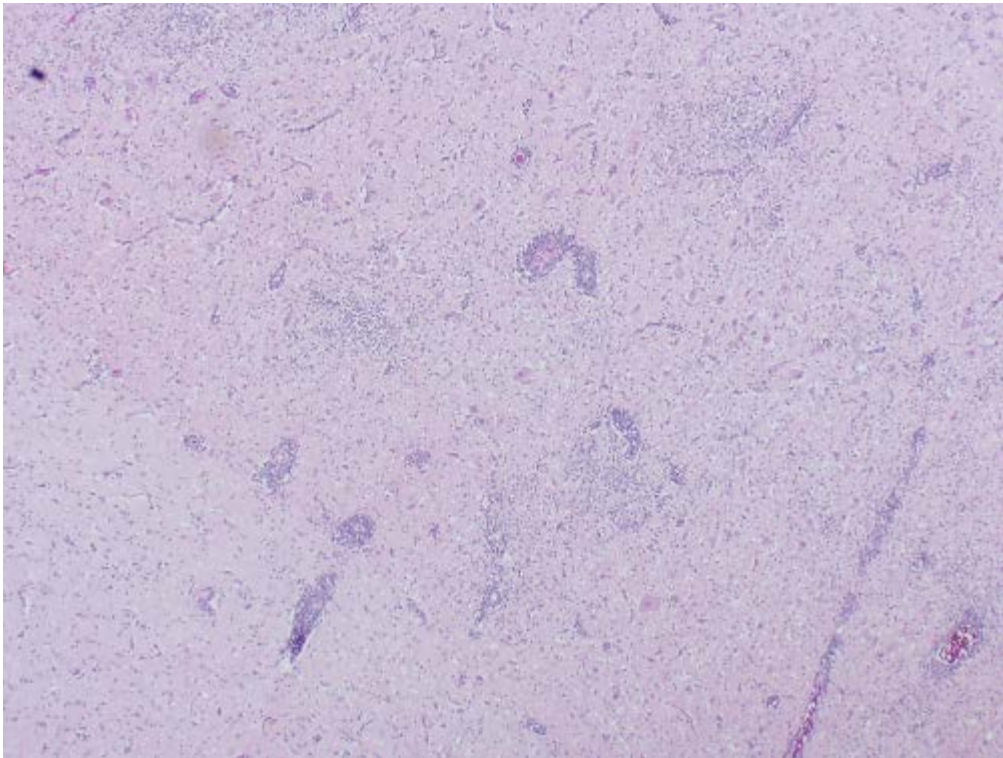


Figure 2.

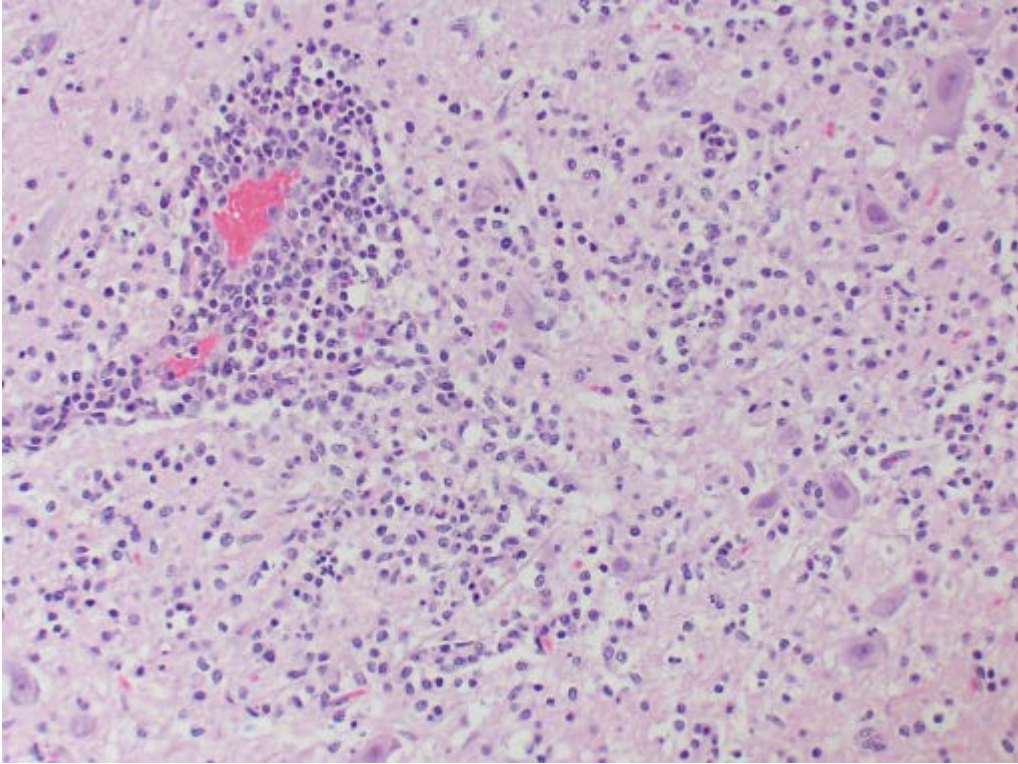


Figure 3.

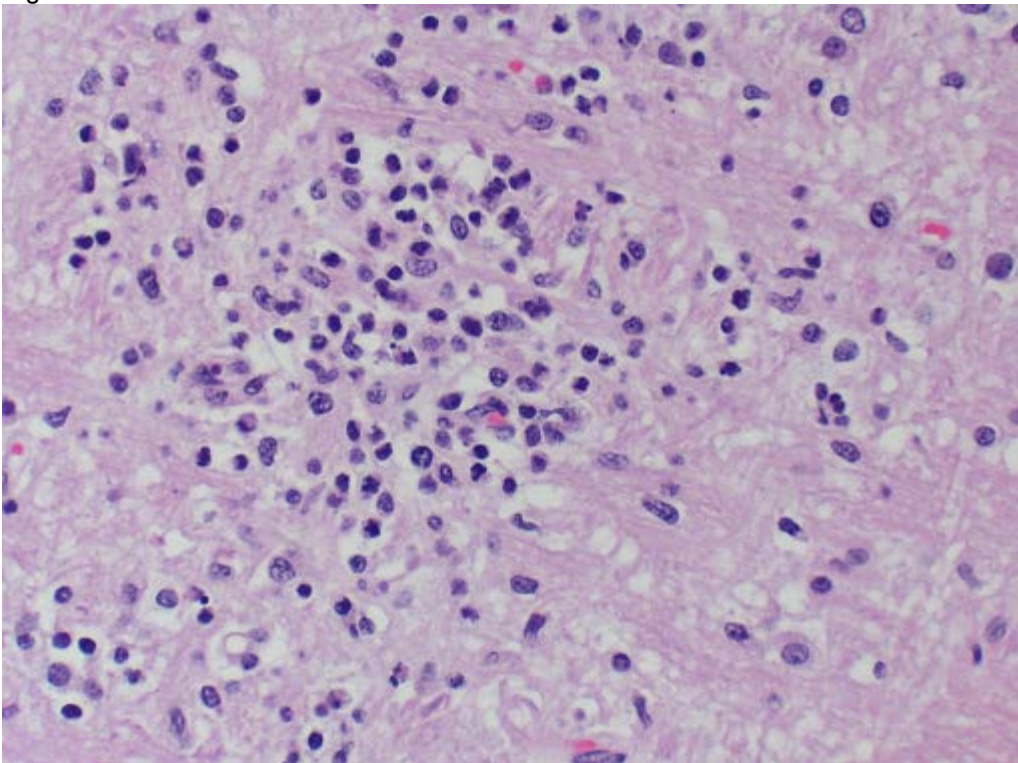


Figure 4.

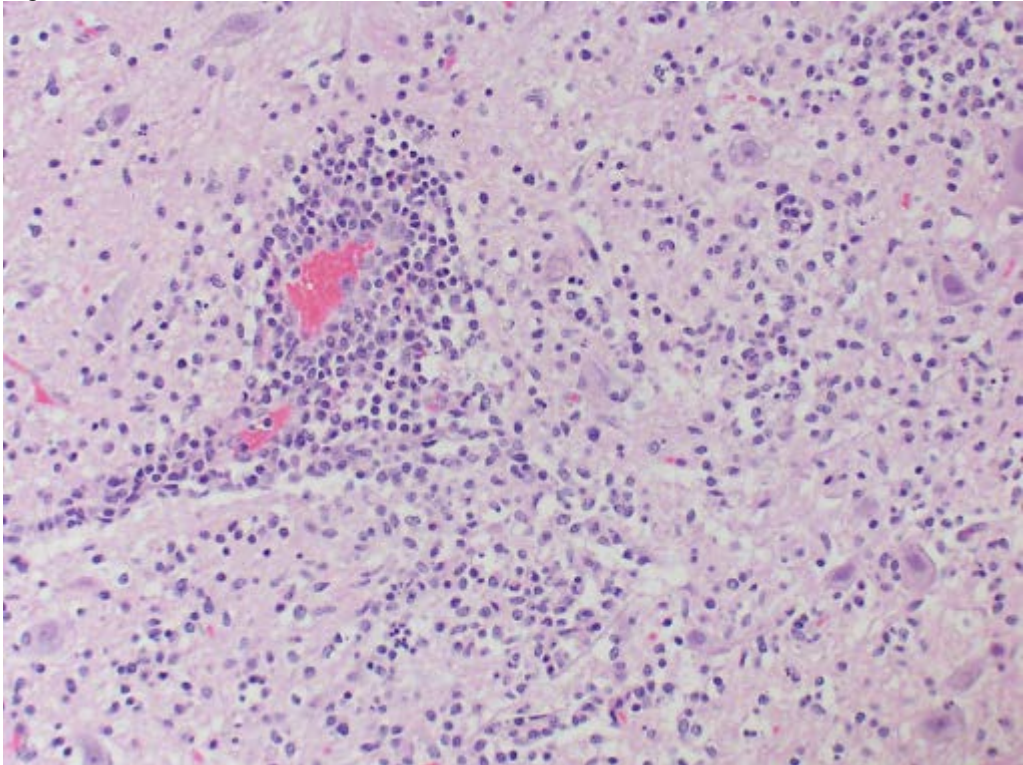


Figure 5.

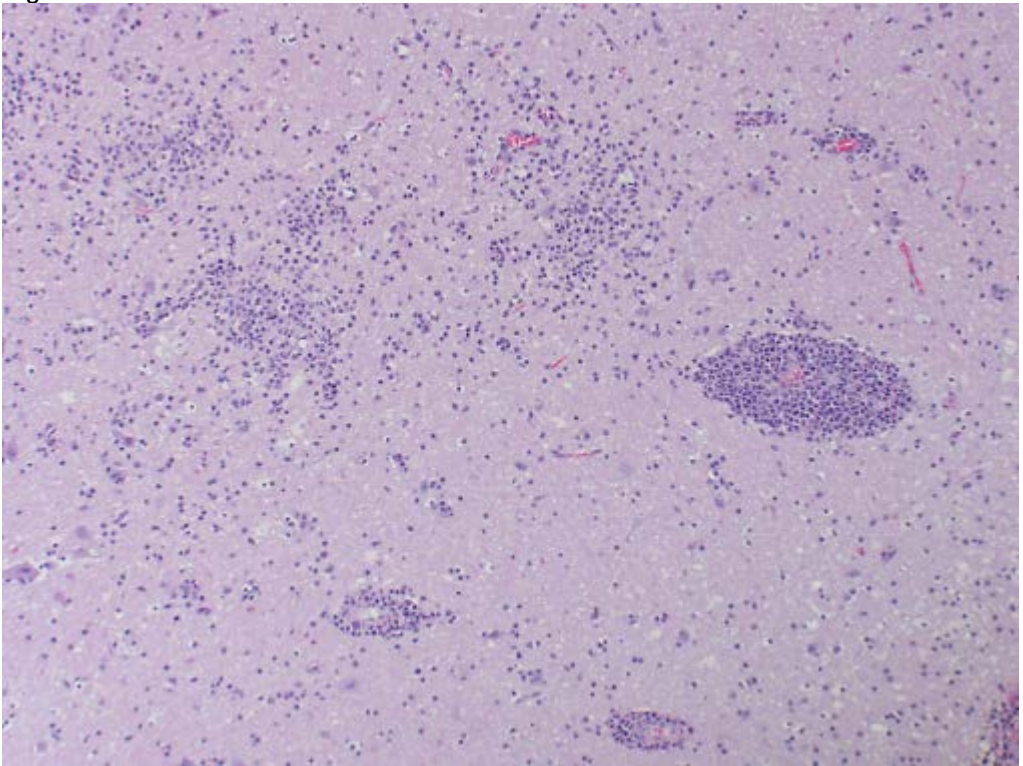


Figure 6.

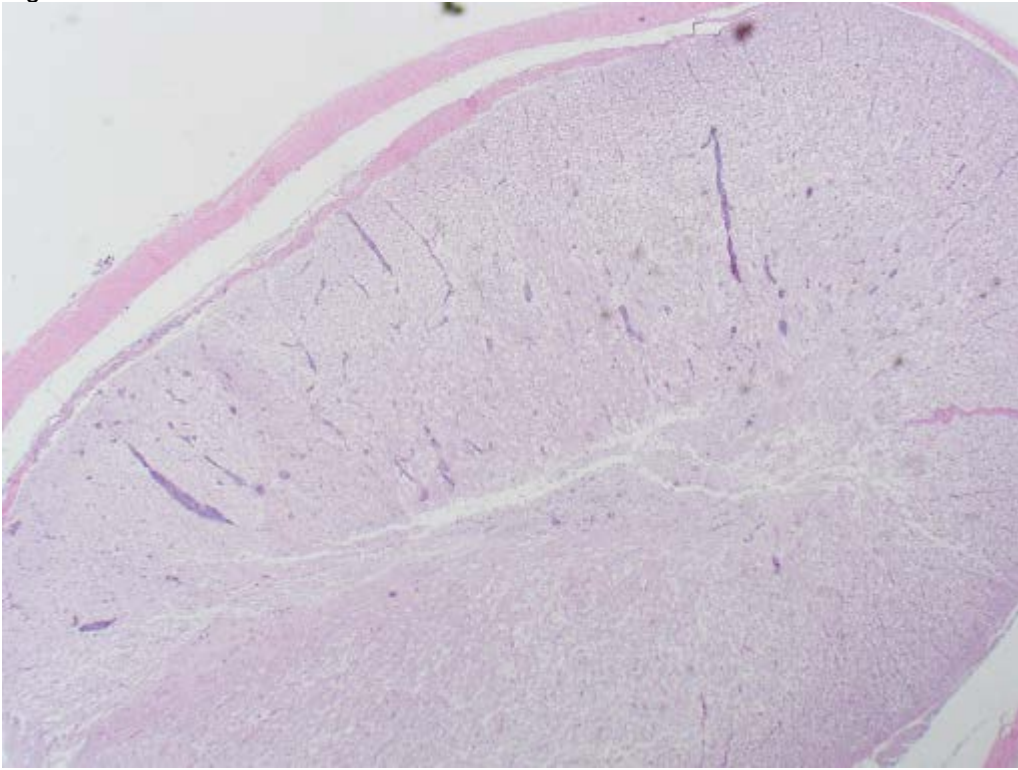
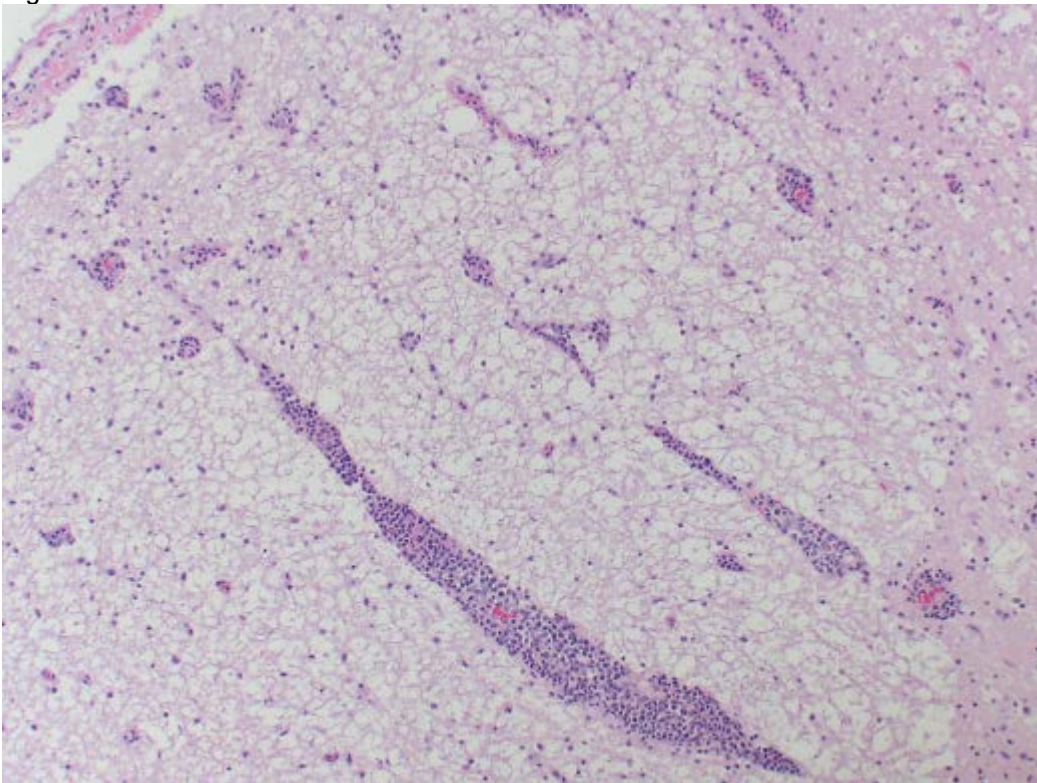


Figure 7.



Bacteriology/Virology:

- Routine culture: No pathogens detected
- PRRS IHC is negative

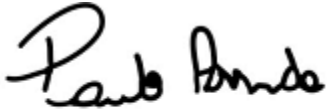
- PCV2 IHC is negative

Laboratory diagnosis:

- Severe, lymphoplasmacytic and necrotizing encephalomyelitis within multifocal areas of gliosis and neuron satellitosis
- Porcine sapelovirus detected by PCR

Comments:

- Brain lesions were severe and highly suggestive for a viral infection.
- Sapelovirus was detected by PCR; however, biologic relevance of this finding is not clear at this point. Sapelovirus has been reported to be associated with CNS disease; however, there is a still lack of experimental evidence regarding the pathogenesis and the role of this virus in cases of CNS disease in swine. To my knowledge the disease has not been experimentally reproduced with pure cultures. Please see recent report from United Kingdom <http://www.sciencedirect.com/science/article/pii/S0378113514002818>



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KEY: Tests: FA = Fluorescent Antibody, IHC = Immunohistochemistry, MLV = Modified Live Virus, ORF = Open Reading Frame, PCR = Polymerase Chain Reaction, RFLP = Restriction Fragment Length Polymorphism, VI = Virus Isolation. Agents: BCV = Bovine Coronavirus, BRSV = Bovine Respiratory Syncytial Virus, BVDV = Bovine Viral Diarrhea Virus, CSF = Classical Swine Fever, HPS = *Haemophilus parasuis*, IAV = Influenza A Virus, IBRV = Infectious Bovine Rhinotracheitis Virus, MHP = *Mycoplasma hyopneumoniae*, MHR = *Mycoplasma hyorhinis*, MHS = *Mycoplasma hyosynoviae*, PCV = Porcine Circovirus, PDCV = Porcine Deltacoronavirus, PEDV = Porcine Epidemic Diarrhea Virus, PPV = Porcine Parvovirus, PRCV = Porcine Respiratory Coronavirus, PRRSV = Porcine Reproductive & Respiratory Syndrome Virus, PRV = Pseudorabies Virus, SVA = Senecavirus A, TGEV = Transmissible Gastroenteritis Virus.