Unusual central nervous system cases

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Key points:

- A disconcerting number of CNS cases have been detected in the last six months.
- Clinical signs have included ataxia, muscle tremors and muscle weakness possibly leading to paralysis.
- Sapelovirus and /or Teschovirus have been detected in 12/17 cases

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During the past six months, 17 unusual central nervous system (CNS) cases have been diagnosed by veterinary diagnostic laboratories (Figure 1). The average age of affected pigs has been 10 weeks (range 0.5 weeks – 26 weeks) with morbidity from 10% – 15% and 100% case mortality. Clinical signs included ataxia, posterior paresis, paddling, and lateral recumbency. Twelve cases were reported in region 3, two cases in region 4, one case in region 6 (see region map), and one case in Canada.

Twelve of the cases were PCR positive to Sapelovirus and Teschovirus, either as a coinfection (n=5) or single infection (n=7) (Table 1). Two samples were negative to Sapelovirus, Teschovirus, Enterovirus and Atypical Pestivirus by PCR.

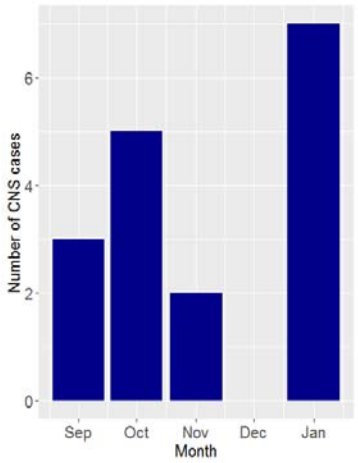

Figure 1. Number of CNS cases diagnosed per month.

PCR result	Number
Sapelovirus and Teschovirus	5
Sapelovirus	4
Teschovirus	3
Enterovirus	2
Atypical porcine pestivirus	1
Negative	2

Table 1. PCR results of CNS cases

Figure 2: Regions

Case report

Clinical signs compatible with a CNS syndrome were recently observed at a site with 5,000 head capacity housed in 2 double-wide barns. Diagnostics are still underway. Clinical signs have been similar since the first case was detected including: pigs down, dilated pupils, and ataxic. Pigs often display paralysis of front end, they are seen scooting on their knees, and then lose all locomotor ability. Pigs still had palpebral and corneal reflexes.

The worst group may have 5 – 40 pigs affected per day (up to 2% – 3% of population). Pigs can be normal one day, clinically neurologic the next day, and found dead the day after (or are euthanized). The case mortality rate is 100%. A wide array of antibiotics and vitamins has not had any apparent benefit. No out of water events were ever detected. Mortality: Group 4: 14% with the CNS syndrome (16% total mortality), Group 3: 5% with the CNS syndrome (7% total), and Groups 1 & 2: less than 5 pigs with the CNS syndrome (3% total).

What to do

We encourage practitioners to watch for unresolved neurologic cases and submit samples to the laboratory for diagnosis. The Swine Health Information Center (SHIC) offers support for diagnostic fees if more investigation is needed after the initial diagnostics are done and unrewarding. Information about that program can be found at http://www.swinehealth.org/shic-support-for-diagnostic-fees/

CNS clinical signs reflecting functional compromise of brain stem, spinal cord, and cerebellum or cerebrum that make up the case definition and initiate voluntary reporting include:

- Ataxia
- Muscle tremors
- Muscle weakness

SHIC has established guidelines to help identify and report CNS cases. You can access them at http://www.swinehealth.org/cnscases/

Stay tunned for a review and more information about those viruses in two weeks.