

WCVDP 2024

Swine Disease

Case histories

Case #1

Enrique Aburto, WCVM

One-day-old piglet. Born with a swollen leg that is hard (almost like a bony callus). On cut section, the muscle seemed "fibrosed" with a pale color and what appear to be streaks of white scar tissue. Farrowing manager had noticed around 15 piglets with similar presentation in the last few months.

DDx - muscular dystrophy/fibrosis (selenium/Vitamin E deficiency or toxicity?), severe cellulitis, or broken bone.

A fresh leg and fixed tissues were submitted for histopathology. The skin was previously removed from the limb and the muscles showed several cuts and missing fragments of muscle. The muscles of the limb were very firm with extensive areas of edema and partially replaced by white tissue (fibrosis).

Case #2

Shanika Kurukulasuriya, WCVM

Inspection of the carcass of a female pig Duroc. Multiple lymph nodes were enlarged (2-3 times normal size) and black.

Case #3

Kylie Pon, WCVM

Signalment: An 18-20 week old, 56 kg, intact, female, porcine.

Herd history: Rear leg lameness in 18-20 week old pigs that is refractory to treatment.

Gross pathology: Bilaterally, stifles contained abundant red-orange, opaque, slightly viscous synovial fluid with clumps of friable, red material. The synovium was diffusely red, thick, with fibrillar luminal projections. Around the left stifle, surrounding connective tissues and skeletal muscle had patchy hemorrhage. The rest of the carcass was unremarkable.

Case #4

Brenda Bryan, Veterinary Diagnostic Services, Manitoba

Received 2 piglets, 3 days of age from the same litter, with average body weight of 1.68kg. History describes 4 dead piglets overnight. On necropsy, the skin of all extremities had well delimited, circumferential to lateral areas of purple to dark pink skin extending from the hock or elbow to the foot. Discoloration was also apparent on the ear, multifocally on the face, eyelids and body ventrum. Cut section of the affected skin revealed marked clear to yellow edema and diffuse congestion. There was similar edema in the subcutis and interstitium around the larynx. Claw tips back legs were purple to black.

Case #5

Brenda Bryan, Veterinary Diagnostic Services, Manitoba

Received 2 neonatal piglets with average weight of 776g. History described loss of 40 piglets immediately post injection. First piglet had sudden death post injection of Excede (ceftiofur sterile suspension), and the second piglet had sudden death post iron injection.

Gross exam was initially unrewarding until yellow brown staining was noted of the tissues around the larynx, extending to the chest. Further dissection revealed yellow brown staining in the subcutis behind the right ear, in the interstitium around the atlanto occipital joint. Additionally, there was yellow brown material and staining in the space between the dura and the brain, and in the meninges of the brain and spinal canal.

Case #6

Brenda Bryan, Veterinary Diagnostic Services, Manitoba

Received 3 dead sows average body weight 182kg. The history describes septicemia and sudden deaths. Submitted were 2 fresh sudden deaths and 1 euthanized sow.

Death loss has been climbing since the weekend. Currently over 200 gilts/sows have died. Sows were on Pot Pen, followed by Amoxicillin, followed by tetracycline. So far antibiotics do not seem to be helping much. Sows that develop symptoms are unresponsive to injection with Ceftiofur or Ampicillin. This problem developed when gilts were introduced and *Streptococcus equi zooepidemicus* was cultured. It was assumed that this bacterium was the cause but may be something else.

On necropsy, the sows had dark pink ventrum and rump and ears were purple. The submandibular and cervical neck lymph nodes were enlarged approximately 2x, tan and red. In the chest, there was moderate amount of clear straw colored fluid with scant fibrin strands and the lungs were heavy pink to dark pink with prominent interlobular pulmonary edema. One pig (A) had a small fibrinous necrotic plaque on the papillary muscle of the right ventricular. Two of the pigs had large chicken fat clots in the right ventricles. All pigs had noticeable gall bladder wall edema.

Case #7

Brenda Bryan, Veterinary Diagnostic Services, Manitoba

15% of this batch of pigs have diamond skin lesions, mostly on non-RWA (Raised Without Antibiotics) pigs. Suspecting Erysipelas infection. Submitted 2 pigs 1 RWA and 1 non-RWA/tagged pig. Received 2 pigs average weight of 36kg. Both pigs had similar skin lesions characterized by multifocal rhomboidal to round, pink to red, slightly raised, plaque wheals occasionally with a central brown depression (targetoid). Fewer of the cutaneous lesions were slightly raised white plaques surrounded by red raised collars. Wheals were primarily on the hind ½ of the pigs, with few found on the front ½ of the body.

Case #8

Marek Tomczyk, Veterinary Diagnostic Services, Manitoba

Second parity sow and a litter of weak and haemorrhagic piglets. 15 born alive, and 7 died and 8 were euthanized. Two dead piglets and two sedated but alive were received for evaluation and VDS in Winnipeg.

Case #9

Marek Tomczyk, Veterinary Diagnostic Services, Manitoba

In 2021 five farms indicated increased incidence of sudden death and abortions. Dead sows were submitted to VDS in Winnipeg for evaluation. Animals had left liver lobe rotation. The lobe was dark red, markedly congested and covered with fibrin. The capsule was teared and covered with blood clots and fibrin adhered to the affected site. Approximately ten litres of dark red bloody fluid admixed with fibrin was in peritoneal cavity.

Case #10

Marek Tomczyk, Veterinary Diagnostic Services, Manitoba

Piglets were becoming greasy 2-3 weeks after entry into nursery. The lesions were on the head, ventral neck, ventral abdomen, front and hind legs, inguinal area and dorsum. Three animals were submitted to VDS in Winnipeg for evaluation.

Case #11

Marek Tomczyk, Veterinary Diagnostic Services, Manitoba

Two piglets were in lateral recumbency and other progressing; three nursery pigs with swollen eyelids and nervous signs and one piglet found dead. Four piglets were sent to VDS for evaluation.

The pericardial sac contained pale yellow fluid admixed with streaks of gelatinous material. There were mild to moderate haemorrhages on the epicardium; on cross section focal areas of pallor separated by areas of haemorrhages were seen in the left and right ventricle.

Case #12

Vasyl Shpyrka, Veterinary Diagnostic Services, Manitoba

Piglets were born this morning. 3 piglets in this litter had red dots over entire body. The remaining piglets had some dots, but not as bad. 2nd parity sow. 7 were born alive, 2 still born and 3 mummies. Fungal work up if possible? Please run other tests as necessary.

Carcass of one male new-born piglet without placenta was received and examined on October 17, 2023. The animal weighing 806 grams was in moderate body condition. Multifocal round to coalescing severe, erythematous umbilicated lesions with a wide ulcerated center and raised borders were covering the whole skin surfaces as well as the tongue. There were no other gross findings in the rest of the carcass.

Case # 13

Hélène Philibert, WCVM

A 14-week-old male pig was submitted alive to the diagnostic laboratory. Poor doing piglet. Infection with Porcine Circovirus suspected.

Case # 14

Hemlata Gautam and Ivanna Kozii, WCVM and PDS

Fixed tissue submitted from the piglets of unknown age. Piglets showed signs of scouring and pneumonia.

Case # 15

Nicole Rose, WCVM

A herd of 2500 piglets aged 23-27 days old. There has been an increase in the incidence of poor doing/fallback pigs. The piglets are unthrifty and approximately 2% are being held back in each batch. The herd is vaccinated for porcine circovirus 3 (PCV-3).

The body of 3.48 kg 23 to 27-day-old, female, piglet is received for postmortem examination. There is evidence of captive bolt euthanasia. There is marked narrowing of the nasal meatuses with congestion and exudate noted. Thin strands of fibrin are present within the peritoneum, pericardial sac and pleural space. Diffusely, the lymph nodes are mildly to moderately enlarged and edematous. Oversized slide.

Case # 16

Tat Chuan Cham and Enrique Aburto, WCVM

A female finishing pig was found dead, and its ears and nose were purple. There were other pigs in the same farm showing strep like symptoms and lameness.

The skin around the ears, ventral, cervical, axillary, and inguinal regions were purple red. Within the heart, the leaflets of pulmonary, aortic, and left atrioventricular valves were partially replaced by variably sized white to yellow, friable, cauliflower-like, friable masses covered by thin blood clots (vegetative endocarditis). Bilaterally, the tarsal joints were congested and markedly edematous. The lungs were mottled red and diffusely wet, heavy, and non-collapsed.

Case # 17

Angie Magana and Susan Detmer, WCVM

A 10-week-old, castrated male, Yorkshire pig was euthanized after several days' history of mucohemorrhagic diarrhea.

A complete necropsy was performed with special attention to the stomach, duodenum, jejunum, ileum, mesenteric lymph nodes, spiral colon (proximal, apex and distal), cecum and rectum. The most severe gross lesions were in the mucosa of the cecum and proximal spiral colon and consisted of moderate to severe diffuse congestion and edema with large flecks of dark red material and mucous covering the mucosal surface. Lesions lessened in severity in the apex and distal spiral colon with only mild congestion and edema in the descending colon and rectum with sticky mucohemorrhagic contents. Warthin Faulkner stain included.

Case # 18

Marina Bezerra Da Silva, WCVM and Vasyl Shpyrka, Manitoba

Ongoing scours in the 4–7-day old piglets. Received 4 live piglets. All piglets had slightly soiled perineum with white to yellow creamy faeces. Similarly moderate amounts of yellow and watery faeces were noted in the small and large intestines. There was approximately 70 mL of white curded milk in the stomachs. No significant gross findings were present in the rest of carcasses.

Case # 19

Asha Perera, WCVM

Signalment: 6-days old, cross-bred, female, piglet.

These piglets were part of a vaccine study on porcine epidemic diarrhoea. During this study, commercial crossbred pregnant sows received the PED vaccine or saline mixed with adjuvant intramuscularly. This piglet (VM54) was born to a control sow. All piglets born to these sows suckled from their dams. At 4 days of age, all piglets were orally inoculated with live porcine epidemic diarrhoea virus (PEDV). This piglet was clinically sick with diarrhoea but survived until euthanasia at 6 days of age. Tissues were immediately processed after euthanasia.

Case # 20

Maria Spinato, Animal Health Laboratory, University of Guelph

Multiple lumps on the neck of this pig, affects about 10% of the finishing pigs (from 120 lbs up to finishing full weight).

Case # 21

Rebecca Egan, Animal Health Laboratory, University of Guelph

Nursery pigs (4-6 wks of age) have neurological abnormalities including ataxia, averaging 5 out of every 1000 pigs (per day). Not responsive to antibiotic therapy. Death occurring within 24 hours of first signs. Two glass slides.

Case # 22

Rebecca Egan, Animal Health Laboratory, University of Guelph

Surveillance on quality of pigs. Leave the sow barn looking good, but there are problems in the downstream nurseries. Fresh and formalin-fixed lung samples submitted from piglets (unspecified age).

Case # 23

Savannah Goldstein, Susan Detmer, WCVM

A 9-week-old male, neutered pig (*Sus scrofa domesticus*) experimentally infected with swine influenza A (IAV-S) at the University of Saskatchewan presented with recurrent, episodic bouts of full body fasciculations for a few weeks' duration. Necropsy revealed well demarcated, patchy, dark red discoloration and atelectasis of the cranioventral lungs. PCR and bacterial culture revealed IAV-S and *Streptococcus suis* in the lungs, and atypical porcine pestivirus (APPV) in brain tissue. Histopathological lesions of the lungs are typical for the detected pathogens, while those of the brain are subtle and lack typical findings associated with APPV.

Case # 24

Josepha DeLay, Animal Health Laboratory, University of Guelph

Late nursery and early grower pigs from a 1200 head commercial herd in Ontario with chronic intermittent diarrhea diagnosed clinically as colitis.

Case # 25

Roa'a Basyouni, Ivanna Kozii and Ahmad Al-dissi, WCVm and PDS

Formalin fixed samples from a 1-week-old, weaned piglet. Clinical signs described: not eating well (mainly water) with watery scours. Treated with 2kg Chlor 100, 2kg Tilmicosin and Respotil in water. Gross findings described by the submitting veterinarian: terrible lungs and enlarged lymph node.

Case # 26

Kinda Ghubari, Colby Klein and Ahmad Al-Dissi, WCVm and PDS

Portions from a piglet of unspecified age received. Scours in parity 1 and 2 litters mainly starting 2-3 days of age reported by the submitting veterinarian. Clinical signs of yellow watery diarrhea, dehydration, and vomiting, followed by death described by the vet. Dilated fluid filled small intestine found on necropsy by the vet. Gram stain included.

Case # 27

Dr Belarmino E. Lopes-Neto, WCVm

A 3-month-old male piglet breed "Piau" (local), with brown coat with black spots, presenting good body condition was admitted to Large Animal Hospital at State University of Londrina, Brazil with slight incoordination, mouth breathing, apathy and anorexia. The owner reported that he had acquired 14 pigs and only one showed these symptoms. A few hours later, after being admitted to hospital, the pig was died and post mortem examination of the pig revealed fibrinous polyserositis, severe fibrinonecrotic epicarditis and pericarditis, abdominal visceral peritonitis, fibrinonecrotic and suppurative pleuritis and pleuropneumonia

Case # 28

Glenna McGregor, BC Ministry of Agriculture and Food

Nine-month old miniature pig presented to submitting vet for skin issues and ill-thrift and died during sedation. On gross post-mortem examination she was in thin body condition and the skin was diffusely thickened with an abundant brown adherent crust with multiple small irregular frond-like structures (hyperkeratosis). Two glass slides.

Case # 29

Glenna McGregor, BC Ministry of Agriculture and Food

Three piglets from a litter where all were stillborn. A previous litter also had all 18 piglets stillborn. Sporadic vaccine use on farm. Sows are housed indoors for farrowing but otherwise kept outdoors with access to sheds. Piglets weighed 0.6, 1.1, and 1.5 kg and were variably autolyzed.

Case # 30

Dominique Fournier, Laboratoire de Santé Animale, Québec

Two weeks after arriving at the grower-finisher unit, ten pigs were found dead presenting reddish skin lesions on the ventral abdomen and buttocks. These pigs had received a water treatment (Aivlosin (tylvalosin)) for 3 days for *Mycoplasma hyosynoviae* associated lameness. A range of other clinical signs were also observed: constant tail movements, subcutaneous edema between the hindlegs and tremors (shivering). Only a few groups were affected in one section of the farm.

Two 12-week-old pigs were submitted dead for necropsy. Both pigs showed similar cutaneous lesions consisting of irregular wine-red macules and plaques, more severely on the hind limbs, inguinal and ventral areas. Lymph nodes were markedly hypertrophied.

Case # 31

Josephine Lee, WCVU

Tissues from a 5 month old pig from a research study on myocardial infarction. It was treated with immunosuppressive drugs. This animal developed lethargy, thrombocytopenia, severe leukopenia, tachypnea, poor peripheral perfusion and acute respiratory distress 2 weeks after surgery on the heart. On post-mortem exam, there was severe pulmonary edema, and 120 ml of clear fluid in abdomen. Abdominal lymph nodes were enlarged and reddened and kidneys were pale with petechial hemorrhage. Suspected acute heart failure.

Case # 32

Magaly Bégin-Pépin, Laboratoire de Santé Animale, Québec

A commercial farrow-to-finish pig farm began to observe several piglets born with very marked subcutaneous edema. Several litters were affected but not all piglets from the same litter were affected. Two, one day old piglets were euthanized and submitted for necropsy. The most striking gross lesion was marked subcutaneous edema, more prominent on the eyelids and ears, with swollen and enlarged lymph nodes.

Case #33

Hannah Walker, Oregon State University

Samples from 6, 10-week-old, York x Landrace piglets. All piglets were submitted live for necropsy and presented with dehydration, watery diarrhea, and runted growth. The 1200 head feeder operation experienced repeated episodes of scouring and weight loss in younger pigs. Farm had changed production to "natural" 12 months prior. * **slide not available. See photos**

Photos case #33:

