UNIVERSITY OF CALGARY

FACULTY OF VETERINARY MEDICINE

The Work-Up

Diagnostic Services Unit | Issue 3 - September/October, 2022

Inside this Issue

DSU Announcements

Thank you to our UCVM Summer Student Katrice Domshy for her hard work supporting the DSU this summer!
Katrice is entering her third year of veterinary medicine at UCVM this fall. When asked why she enjoys working in the DSU, Katrice cited working with great people and the very interesting pathology cases.

Reminder: *physical* RFID tags are *required* when submitting cattle for necropsy.

Holiday closures:

Labour Day:
Monday, September 5, 2022

National Day for Truth & Reconciliation:
Friday, September 30, 2022

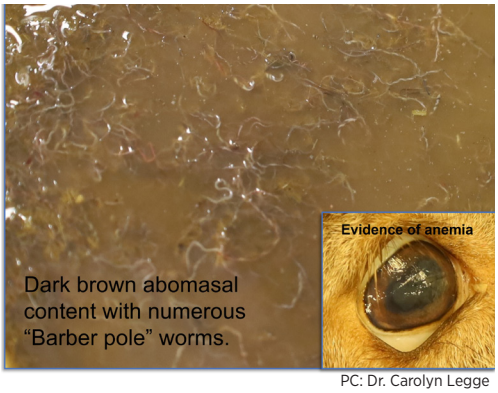
Thanksgiving Day:
Monday, October 10, 2022

SPOTLIGHT

Dr. Jennifer Davies, the Director of the DSU, is an anatomic pathologist and Associate Professor (Teaching) at UCVM. She obtained her Doctor of Veterinary Medicine (DVM) from the Western College of Veterinary Medicine (WCVM) in 2001. She also completed her anatomic pathology residency and MVSc at WCVM, becoming a Diplomate of the American College of Veterinary Pathologists in 2004. Dr. Davies joined UCVM in 2011. Her position at UCVM combines her passion for diagnostic pathology and teaching. In particular, she enjoys the challenge of leadership as the DSU team strives to meet the vision of becoming the center of diagnostic expertise and excellence in Alberta.

Guttural pouch mycosis resulting in fatal epistaxis was diagnosed in a 1 year old thoroughbred gelding. Two weeks prior to death the horse was treated successfully for left-sided guttural pouch mycosis using balloon catheterization of the internal carotid artery (ICA). Its death at home was unexpected. Necropsy revealed the ligature at the origin of the ICA was intact, and the lumen of the ICA was thrombosed appropriately for 10cm distal to the ligature. The left external carotid artery and its branches were not contacted by the fungal plaque and were confirmed to be intact. Given this, we concluded that an aberrant branch of the ICA existed that was not occluded by the balloon catheter and still permitted retrograde blood flow from the cerebral arterial circle, with ICA rupture and exsanguination.

Haemonchosis caused lethargy, recumbency, and pale mucous membranes in a 3 month old ram lamb in spite of several previous anthelmintic treatments. The roundworm Haemonchus contortus (the barber's pole worm) is an important gastrointestinal nematode parasite of sheep and goats. This parasite sucks blood in the abomasum (stomach) of sheep and goats and often causes anemia, edema (bottle jaw), weakness, weight loss, and sometimes death. The development of anthelmintic resistance has been an emerging issue and requires a multipronged approach for adequate parasite control (managing levels of pasture contamination, appropriate use of anthelmintics, selective monitoring and treatment of affected animals, quarantine/treatment of new introductions, and investigation of treatment failure). For more information, please visit https://vet.ucalgary.ca/research/sheep-parasite-control/home



PC: Dr. Carolyn Legge

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DSU Team

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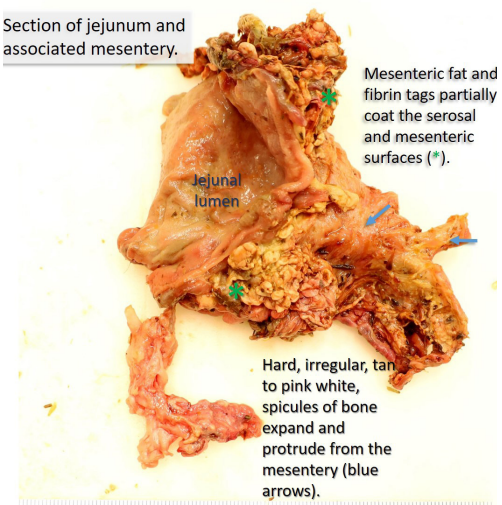
Rabbit hemorrhagic disease (RHD) caused GI stasis and sudden death in a 1-year-old rabbit. Grossly liver lesions were nonspecific, but massive and acute hepatocellular necrosis was found on histopathology. RHD is highly contagious among rabbits and caused by rabbit calicivirus. Liver submitted to the CFIA was positive for RHD via PCR. Typical clinical signs include fever and depression, blood spots in the eyes, bloody nasal discharge, and neurological signs. Death occurs due to bleeding or severe liver necrosis. There is no treatment and humane euthanasia is recommended to minimize potential spread to other rabbits. It is a federally immediately notifiable disease in Canada.

Infectious laryngotracheitis (ILT), caused by Gallid herpesvirus 1, is a highly contagious viral respiratory disease of birds, commonly affecting chickens, pheasants, and peafowls. Clinical signs include severe dyspnea, coughing, rales, nasal and ocular discharge, tracheitis, conjunctivitis, and increased flock mortality. Recovered birds typically remain asymptomatic carriers of ILT. Necropsy reveals the presence of blood, mucus, yellow caseous exudates, or a hollow caseous cast in the trachea with necrotizing tracheitis and conjunctivitis. ILT is a provincially reportable disease in Alberta with 27 cases reported in 2021 and 8 cases reported to date in 2022.

Histophilus somni was the cause of pneumonia in 4-month-old beef calves on pasture with lethargy, dry cough, poor nursing, and increased respiratory rate. Treatment included antibiotics and NSAIDs. Necropsy examination revealed a severe, acute fibrinous pleuropneumonia highly suggestive of bacterial pneumonia and *H. somni* was cultured from the lung. Bacterial pneumonia is often preceded by a stressful event or a primary viral infection. PCR was negative for BHV-1, BRSV, and PI3. Copper and Vitamin A deficiency were also present. Both copper and vitamin A deficiencies can lead to immunosuppression in cattle and may have contributed in this case. Copper deficient forage is not uncommon in Western Canada and can be exacerbated by high molybdenum and/or sulfates in food or water which bind copper.

Mesenteric heterotopic bone formation was found in the jejunal mesentery from a sow that was sick and died 4 days after farrowing. This rare finding of osseous metaplasia has been linked to previous peritoneal inflammation in the pig with few reports of this change occurring in humans, usually following abdominal surgery. This bone formation can either occur as an incidental lesion or cause of death. The latter may be linked to intestinal perforation as mesenteric bone interferes with intestinal movement or leads to intestinal obstruction. Retained piglets and septicemia was suspected as the cause of death in this case.



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Tips & Tricks

Both commercial poultry producers and backyard poultry owners should survey their routine flock mortality to monitor flock health!