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Bovine

Intestinal parasitism was the cause of loss of condition, diarrhea and lethargy of a 6-month-old Angus steer on natural pasture. The animal was euthanized and submitted for necropsy. Grossly the carcass was in poor nutritional condition with no fat reserves, serous atrophy of fat, and generalized muscle atrophy. The small intestine and spiral colon were flaccid and had a small amount of yellowish liquid content. The cecum had a large amount of *Trichuris* spp. (whipworms) attached to the mucosa and green liquid content. Fecal float confirmed the presence of *Trichuris* spp. and *Trichostrongyle* eggs, and coccidian oocysts. In addition, the concentration of copper and selenium in the liver was well below the normal reference range (copper: 5.9 ppm; normal 25-100 ppm. Selenium: 0.13 ppm; normal 0.25-0.5 ppm). Although *Trichuris* spp. infections are common in young cattle, they are usually asymptomatic. In this case, the loss of condition and the diarrhea were likely a consequence of the combined effect of *Trichuris* spp., *Trichostrongyle* spp. and coccidia, coupled with copper and selenium deficiency.

Urinary tract defects and atresia ani were detected in two, 1-day-old Holstein male calves from the same dairy. The facility had previously noted multiple cases of atresia ani. Both calves had a thin hairless area on the ventral abdominal midline and urine was leaking from a small hole at the caudal end of that area. There was absence of a normally formed penis and external urethra. One calf was cryptorchid and had the kidneys fused at the caudal pole (horseshoe shape) with a single ureter.

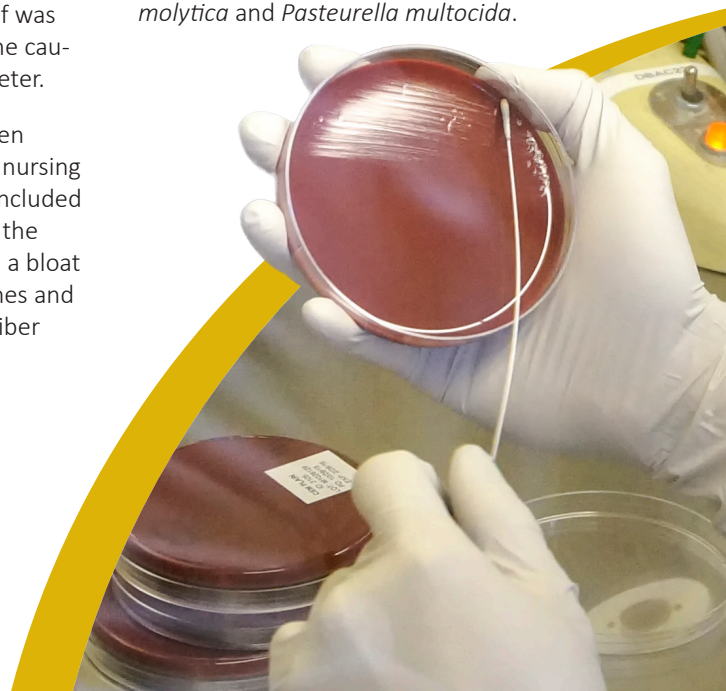
Frothy rumen bloat was the cause of sudden death in a 2.5-year-old crossbred beef cow nursing a healthy 3-month-old calf. Gross findings included abundant green and frothy ingesta, fluid in the rumen, and a pale thoracic esophagus with a bloat line at the level of the thoracic inlet. Legumes and pastures that have a high protein and low fiber content can predispose to frothy bloat.

Equine

Equine herpesvirus myeloencephalopathy (EHM) was diagnosed in five horses submitted for necropsy from different locations as part of the ongoing outbreak of equine herpes virus infections. The four Warmbloods and one Quarter Horse cross ranged from 10-22 years of age. Duration of illness ranged from four hours to five days. Clinical signs varied but usually included hind limb ataxia or weakness followed in less than 24 hours by inability to stand. Nasal discharge and fever preceding neurologic signs was observed in two horses. Other signs reported in individual horses were urine dribbling, swollen limbs and lethargy. Histology revealed myeloencephalitis accompanied by vasculitis/perivasculitis in all horses, with variable presence of meningitis and necrosis. Equine herpesvirus PCR without the neuropathogenic marker was positive on brain and/or spinal cord in all five animals, and lung and bronchial swab of four animals.

Other Mammalian

Pleuropneumonia was the cause of death in a 12-year-old reindeer with a history of sudden death. Gross examination revealed pleuropneumonia with hemorrhage throughout the cranio-ventral lobes of both lungs. *Bibersteinia trehalosi* was isolated from the affected lungs. This microorganism is a member of the *Pasteurellaceae* family; which also includes *Mannheimia haemolytica* and *Pasteurella multocida*.





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Small Ruminant

Clostridium perfringens type D enterotoxemia

resulted in enteritis and death of two, 2-year-old dairy goats on separate premises. Both animals had a 1-day history of diarrhea prior to death. Gross postmortem findings included liquid intestinal content, which in one case was pink and in the other case had strands of fibrin. Segmental necrotizing enteritis was seen microscopically in both animals. Alpha and epsilon toxins were detected in intestinal contents confirming the diagnosis of *C. perfringens* type D enterotoxemia. Diarrhea and enterocolitis are common manifestations of *C. perfringens* type D infection in goats.

Pituitary abscess and meningoencephalitis was the cause of death of a 4-year-old Babydoll South-down male sheep that was found dead without prior signs of illness. In ruminants, bacterial infection may lead to the so-called “pituitary abscess syndrome”, which is often fatal. Male animals seem to be predisposed, possibly due to trauma associated with fighting or dehorning. In this case, *Mannheimia haemolytica*, *Streptococcus lutetiensis*, and *Fusobacterium necrophorum* were isolated from the pituitary abscess.

Chlamydia spp. was the cause of late-term abortions in sheep and goats from a mixed herd of 300 animals. Three goat fetuses, a goat placenta and one sheep placenta were submitted. All goat fetuses had hepatitis, meningoencephalitis and pneumonia. The goat placenta had grossly thickened and roughened intercotyledonary areas. Placentitis with vasculitis was found in the goat and sheep placentas. *Chlamydia* spp. immunohistochemistry and *Chlamydia abortus* PCR were positive on the placentas. All goat fetuses had low liver copper from 5.5-10 ppm (normal 25-100ppm).

Pig

Cystitis-pyelonephritis complex was the cause of death in two, 5- to 6-year-old adult crossbred sows from one premises, exhibiting a brief period of anorexia a few days prior to their death. One sow had bilateral abscesses involving the entire left kidney and 25% of the right kidney, with purulent material in both dilated ureters. The urine was cloudy with yellow sediment. The bladder was thickened, hemor-

rhagic and emphysematous. *E. coli* was isolated from the urine and ureters. The other sow had firm, compacted yellow sediment filling and expanding the bladder, mild hydronephrosis and severe peritonitis. *Proteus* spp. overgrew urine cultures from this sow. This syndrome is associated with ascending infections from the vagina and urethra. Factors that lead to urine stasis in the bladder can predispose to the condition.

Poultry and Other Avian

Avian poxvirus infection was the cause of severe eyelid lesions in a pigeon from a 500-animal loft where approximately 10 others had presented with both oral and ocular lesions. On necropsy, both eyes were closed and the eyelids were markedly swollen and overlaid by a crusty tissue. Histology revealed marked epithelial proliferation with necrosis, ballooning degeneration, and intracytoplasmic poxviral inclusion bodies (known as Bollinger bodies). Avianpox may have two different presentations, a wet (diphtheric) form, with oropharyngeal and mucocutaneous lesions, and a dry form, which presents predominantly with cutaneous lesions on unfeathered skin. Albeit slowly, the disease can often spread among the animals of a group.

Necrotic enteritis and coccidiosis were diagnosed in a backyard chicken farm raising Cornish poults that experienced a marked increase in mortality. Over a 3-day period the farm had 25 unexpected deaths with no clinical signs observed in any of the birds. On postmortem examination of eight birds, the small intestinal mucosa was irregularly raised and had a towel-like appearance. Microscopically, there was mucosal necrosis. Coccidia were detected in the small intestine and ceca by microscopic exam of intestinal scraping and fecal flotation.

