



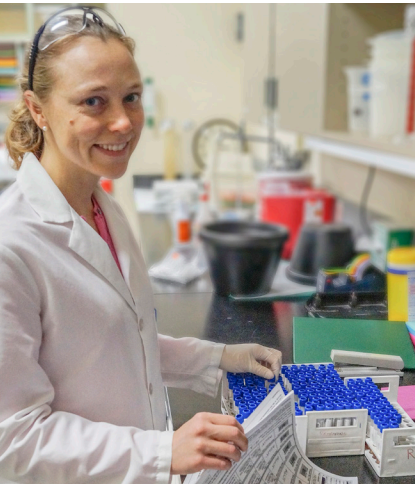
UC DAVIS

VETERINARY MEDICINE

California Animal Health and
Food Safety Laboratory System

CAHFS CONNECTION

LEADING DIAGNOSTICS NATIONALLY, PROTECTING CALIFORNIA LOCALLY • MARCH, 2023



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Welcome Dr. Omar Gonzales Viera!



CAHFS is proud to welcome Dr. Gonzales Viera as a faculty pathologist in the Davis Laboratory effective February 1st, 2023. Dr. Gonzales Viera obtained his DVM degree at National University of San Marcos in Lima, Peru, and completed a Master's degree in Comparative Pathology at the University of São Paulo, Brazil. Subsequently, he obtained a Ph.D. in Integrative Pathobiology at UC Davis. After completing his anatomic pathology residency at the Davis branch of CAHFS, he became Board Certified by the American College of Veterinary Pathologists. His main interests are diagnostic pathology and infectious diseases of wildlife and food animals with focus on viral diseases causing respiratory and systemic infections. In his free time, he likes cooking and spending time with his family.

Bovine

Nitrate toxicosis was the cause of sudden death in a 2-year-old Corriente roping steer from a group of six, in which two others had died in the previous 10 days. Necropsy was unremarkable. Nitrate rapid screening test was positive on aqueous fluid (60ppm nitrate; toxic above 20 ppm). The animals had been fed on teff grass hay, a sample of which had 18,000 ppm of nitrate (toxic above 10,000 ppm). Clinical signs of acute nitrate poisoning include sudden death, salivation, diarrhea, tremors, dyspnea, ataxia, rapid heartbeat, and convulsions. Death may occur within 6 to 24 hours after exposure. Forages containing 10,000 ppm or more nitrates are not safe to feed. Lower nitrate levels may be tolerable under certain conditions, but only if the forage can be incorporated into and diluted in mixed rations for cattle. One source is here: <https://extension.uga.edu/publications/detail.html?number=C915&title=nitrate-toxicity>

K99 *E. coli* (enterotoxigenic colibacillosis) caused the death of ~10, 1-day-old Jersey calves from a calf ranch experiencing increased mortality in calves under 24 hours of age. Both affected calves submitted were moderately dehydrated, and had voluminous pasty yellow intestinal content and milk curd in the abomasum. K99 (now called F5) *E. coli* was confirmed by ELISA on feces. Histologic lesions with

attaching bacteria in the ileum were compatible with enterotoxigenic colibacillosis. This organism causes severe secretory diarrhea in calves under 7 days of age leading to dehydration and electrolyte loss even before diarrhea is noticed, as in this case.

Pig

Porcine epidemic diarrhea virus (PEDv) was the cause of diarrhea in 2-week-old piglets with a 1-week history of scours. Piglets submitted were lethargic and depressed, with watery diarrhea and labored breathing. Necropsy revealed variable amount of milk curd in the stomach and abundant yellow fluid throughout the intestine. Histology was compatible with PEDv enteritis and PEDv was detected by PCR in intestinal contents.





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Equine

Scapular fractures were diagnosed in two, three-year-old, Thoroughbred racing horses (a gelding and a mare). In both cases, the injury occurred during training on a dirt track and resulted in shoulder swelling, and inability to bear weight on the affected forelimb. The affected limbs had closed, complete, comminuted, displaced, articular and non-articular, and transverse fractures of the neck of the scapula. A pre-existing callus bridging the transverse fracture of the scapular neck was observed in both cases. Catastrophic complete scapular fractures typically involve the neck and glenoid cavity of the bone, and are responsible for ~2% of the Thoroughbred racehorse musculoskeletal fatalities in California. This fracture is more common in the right scapula of young, male racehorses, early in their career or after a few races. Pre-existing callus similar to those described in these cases are the most frequent predisposing factors for this fracture.



Small Ruminant

A large thymoma was observed occupying approximately 2/3 of the thoracic cavity and compressing the lungs and the heart of an adult Nigerian goat with history of weight loss, subcutaneous edema of the neck and slow gait. Thymomas are amongst the most common neoplasms in aged goats. They rarely metastasize and may or may not cause clinical signs. Tumors in the mediastinum more often are associated with poor outcomes compared to those in the ventral neck. Weight loss or respiratory signs may be present if the

thymoma grows large enough to compress cranial mediastinal structures.

Ovine progressive pneumonia virus (OPPV) infection caused interstitial and proliferative pneumonia in a Dorper cross ewe from a flock of 450, that was found down less than one day before death. The lungs were meaty, failed to collapse and had about 30 small abscesses throughout. OPPV infection was confirmed by immunohistochemistry on the lung and serology. *Pasteurella multocida* was isolated from the abscesses.

Poultry and Other Avian

Erysipelothrix rhusiopathiae was the cause of septicemia in 99-week-old, layer-type chickens. The birds were lethargic on presentation, and had markedly enlarged spleens, and white to tan mottling of the livers on necropsy. *E. rhusiopathiae* was isolated from the spleen, sinus, trachea, liver and heart. Erysipelas is a bacterial disease that often presents as septicemia, can occur sporadically, and affects birds of all ages. The organism resides in the soil, and birds can become infected through ingestion of contaminated feed, breaks in the skin as occurs during artificial insemination of turkeys, through carrier animals and mechanical transmission. *E. rhusiopathiae* is a zoonotic organism that can infect people through skin wounds.

Aspergillosis was diagnosed in a 6-month-old Chiloé Wigeon (*Mareca sibilatrix*) found dead in a zoological facility. On necropsy, there was severe air sacculitis and pneumonia with caseous plaques. Abundant fungal hyphae and conidiophores were observed microscopically, and *Aspergillus spp.* was isolated.

